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Trade and Politics in Proto-Elamite Iran [and Comments and Reply]

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# Trade and Politics in Proto-Elamite Iran<sup>1</sup>

by John R. Alden

THE "PROTO-ELAMITE" PERIOD is the phase of Iranian prehistory distinguished by the use of Proto-Elamite writing on small clay tablets. These tablets are rectangular or pillow-shaped and made of clean, well-knit clay with no visible temper; they most commonly range in size from about 3.5 by 5 cm to about 7 by 9 cm. The earliest tablets have only numerical signs and seal impressions and thus are not, strictly speaking, Proto-Elamite. The later ones, with both numbers and the distinctive Proto-Elamite ideographic signs,<sup>2</sup> are called "economic texts" to distinguish them from the earlier "numerical texts" and the much later "linear" or "lapidary" inscriptions. I will use "Proto-Elamite" more broadly, to refer to a cultural phenomenon rather than a chronological one. Events described as Proto-Elamite in this paper begin about 3300 B.C. with the appearance of numerical tablets and continue until the economic tablets fall out of use. (I exclude the era of the "linear" inscriptions, which have been dated to the later half of the 3d millennium B.C. [Brice 1962].) No firm terminal date for the use of the economic texts has been established, and the best that can be said at present is that they were used until at least the Early Dynastic I-II transition.<sup>3</sup> For our purposes, then, the

Proto-Elamite period comprises the five centuries between 3300 and 2800 B.C. Thus defined, it incorporates the Late Uruk, Jemdet Nasr, and Early Dynastic I periods of the Mesopotamian chronological sequence.

Proto-Elamite tablets are generally unfired, and they have only been recovered from excavations. Still, their archeological contexts allow them to be associated with specific ceramic assemblages. While these assemblages differ from region to region, they share particular design motifs, attributes of form and fabric, and vessel shapes frequently enough to imply a wide range of shared technological and symbolic behavior across the entire area in which the tablets have been found. This implies regular communication between the different regions and lends some credence to the possibility that language, religion, and ethnic affiliation were shared along with the Proto-Elamite notational system preserved on the tablets.

This period is not well known. Only the numerical symbols used on Proto-Elamite tablets are understood, and although several scholars (Hinz and Meriggi, cited in Lamberg-Karlovsky 1978:117-18) have suggested translations for some of the non-numerical characters in the writing system the tablets remain at best "largely undeciphered" (Stolper n.d.:2). Very few complete plans of Proto-Elamite buildings are known, and the number of reported Proto-Elamite burials can be counted on one hand. In short, we know very little about religious, social, or political organization in Proto-Elamite society. Recent research has, however, helped clarify the regional and inter-regional economic organization of these times.

The Proto-Elamite phenomenon, I will argue, reflects changing political and economic relationships between the highland resource areas of Iran and the alluvial plains of the Tigris and Euphrates Rivers. This reconstruction implies that political decisions made by the ruling elites were at least in some instances determined by economic motives and that these same decisions resulted in movements of populations, ideas, and material goods across large areas of the Middle East. The area of Proto-Elamite hegemony does not seem to have extended beyond the borders of modern Iran, but developments influencing and influenced by that hegemony occurred as far east as Afghanistan and as far west as Syria.

Proto-Elamite economic tablets have been found from Susa

<sup>1</sup> Many people read preliminary versions of this paper, and many of their comments are incorporated into the version published here. The detailed criticisms of Linda Jacobs, Holly Pittman, Dan Potts, Bill Sumner, and Henry Wright were particularly helpful. Pierre Amiet, Elizabeth Carter, Genevieve Dolfus, Greg Johnson, Lou Levine, and Bob Schacht also offered valuable suggestions, comments, and advice. However, responsibility for the accuracy of the data and for their interpretation remains, as ever, with the author.

<sup>2</sup> The Proto-Elamite and Early Sumerian writing systems are clearly different, but it is not clear whether the numerical texts represent a single, Mesopotamian, tradition or whether they too should be separated into highland and lowland aspects of a new invention.

<sup>3</sup> Over 1,400 of the approximately 1,500 known economic tablet texts were discovered at Susa during the first third of this century, when both excavation controls and recording practices were woefully inadequate. Therefore, most of their ceramic, architectural, and chronological contexts are lost. Le Breton (1957:120) comments that

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no Proto-Elamite tablets seem to have been found in post-Susa Dd contexts, at least suggesting an Early Dynastic III terminal date for their use. The more conservative date mentioned here is derived from two data. First, Proto-Elamite tablets have been found in Period IV(2) at Sialk, where the associated ceramics show parallels to the beginning of Early Dynastic II in the Diyala region (Dyson 1965:226). Second, a single tablet was found in Level 18 of the Susa Ville Royale I excavation, which has been dated to slightly later than Susa Acropole I:14b and to the Early Dynastic I-II transition (Carter 1981). In the absence of evidence confirming any later use, the terminal date suggested here seems most appropriate.

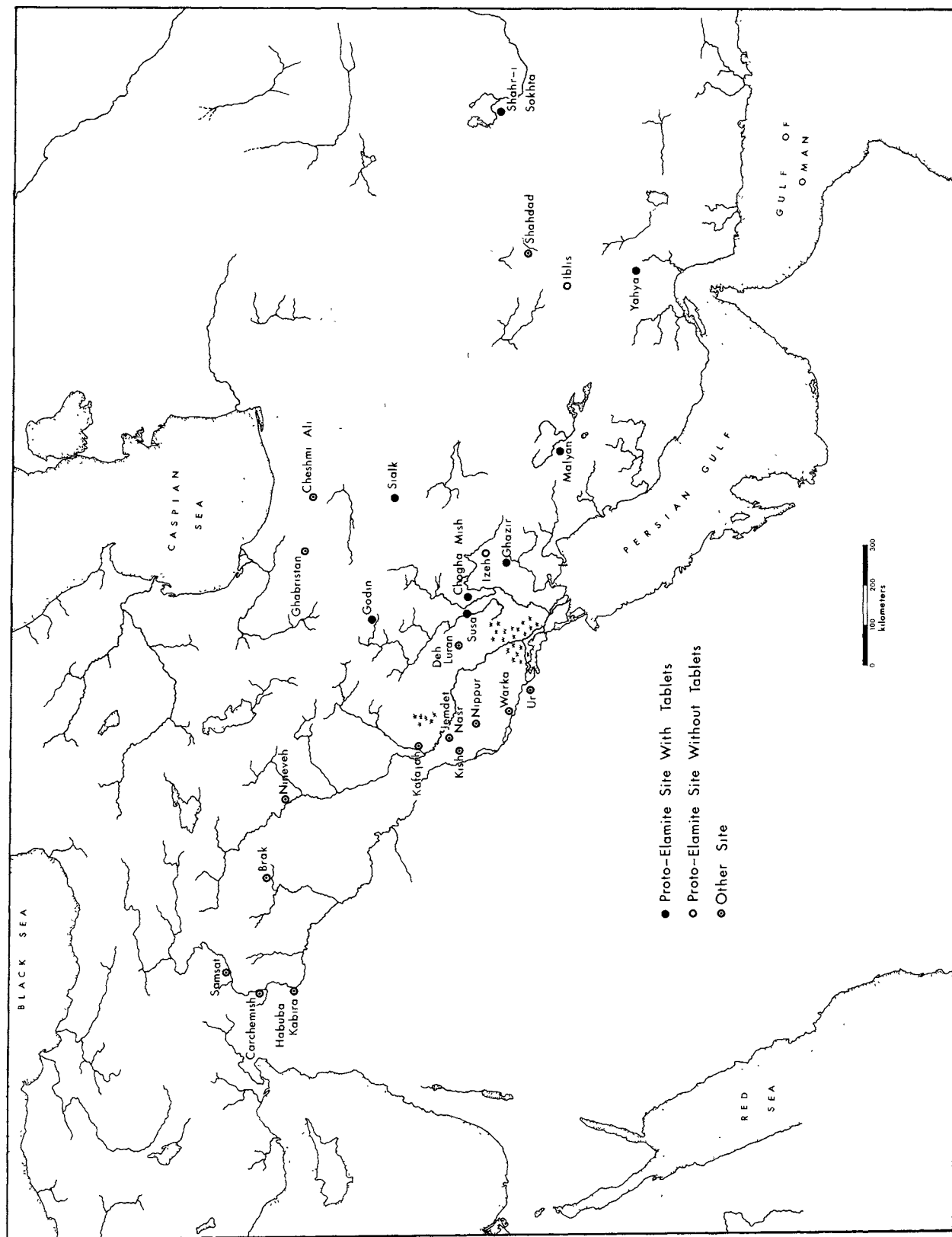


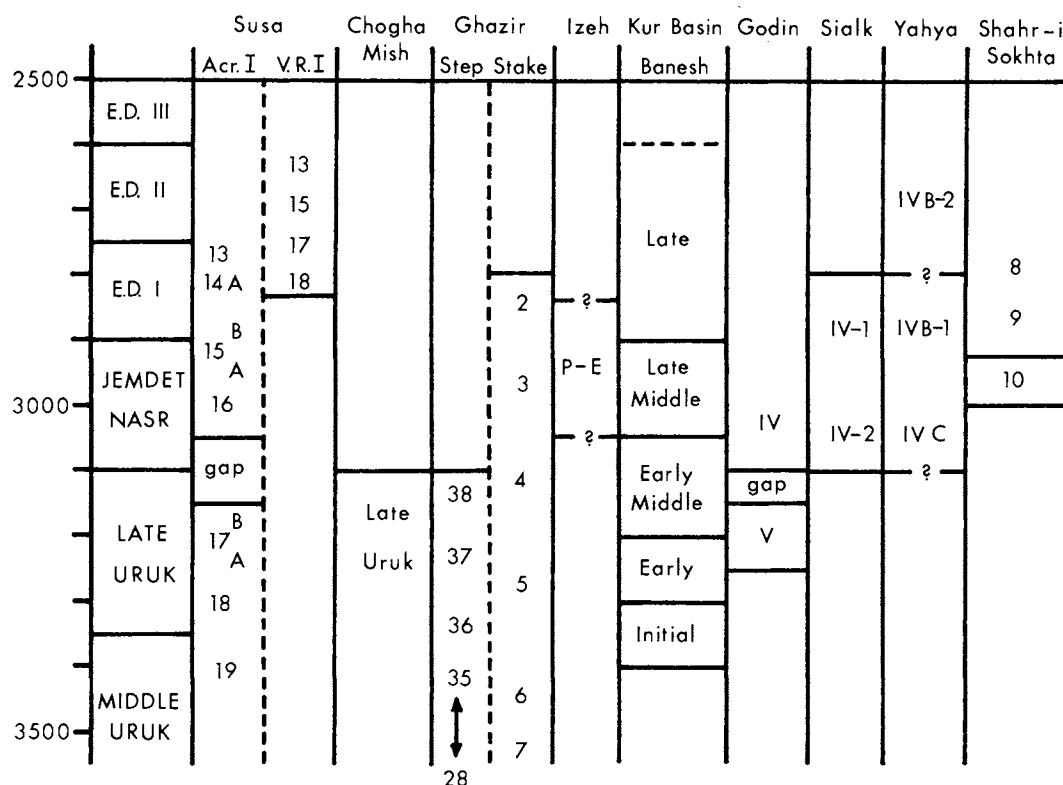
FIG. 1. Sites with late 4th and early 3d millennium B.C. occupations that are mentioned in this paper.

in the west to Shahr-i Sokhta in the east and as far north as Sialk (see figure 1 for the locations of these sites and figure 2 for their chronological<sup>4</sup> relationships). Excavations at Malyan and Yahya have also yielded tablets with inscriptions, while numerical tablets have been found in Iran at Godin, Chogha Mish, Ghazir, and Susa. Also, enough is known about the Susiana Plain (including the sites of Susa and Chogha Mish), the Izeh Plain, and the Kur River Basin (the area around Malyan) to justify a discussion of their regional settlement patterns. I will first present a summary of the basic data and then offer my reconstruction of regional and interregional economic relations. Finally, I will advance some speculations on the control and regulation of Proto-Elamite economic activity by political institutions.

## SITES WITH TABLETS

Godin (Young 1969, Young and Levine 1974) occupies a strategic location on the best route from central Mesopotamia to the Iranian Plateau, between the modern towns of Hamadan and Kermanshah. Excavations at the site uncovered an oval Period V building complex on the highest part of the main mound that contained tablets,<sup>5</sup> ceramics, and seal impressions closely paralleled in the Late Uruk material at Susa. In architectural details the Godin Period V building is similar to buildings found at Sialk, Susa, Malyan, and Yahya. Approximately half of the ceramics from the oval were lowland-related types, although only 20% of the pottery from a lower part of the Period V settlement showed such parallels (Weiss and Young 1975:6). These data are interpreted by the excavators as representing the presence of Susian merchant-traders at the site. There is also evidence that Godin was hastily abandoned by its Period V inhabitants and after some 5 to 50 years reoccupied by peoples from northern Iran (Weiss and Young 1975:2-3, 15). Surface surveys in the surrounding area have not revealed any other sites in the region with Godin V-style ceramics (Young 1975:192).

Sialk (Ghirshman 1938) is situated between the innermost ridges of the Zagros Mountains and the Dasht-i Kavir salt desert, near the modern town of Kashan. A large spring at this spot has apparently supplied water to the local inhabitants for



thousands of years; nearby deposits of copper ore (Caldwell and Shahmirzadi 1966:23-26) and the early use of copper at Sialk suggest that this metal may have been another important resource available locally. The evidence from Sialk Period IV is similar to that from Godin V: tablets (which at Sialk are indubitably Proto-Elamite economic texts), ceramics, and seal impressions were found in an architectural complex situated on the highest part of the southern mound at the site. Details of construction, particularly raised doorsills between inside rooms and a bilevel hearth, are paralleled at Susa, Godin, and Malyan. Two adult burials were discovered, with abundant funerary furnishings that included gold and lapis lazuli ornaments. At least four infant burials in jars were also found (Ghirshman 1938:59-61), a feature paralleled in the TUV area at Malyan (Nicholas n.d.). Because the Sialk Period IV structures overlie a deep layer of ash containing several skeletons and because the Period IV ceramics are distinctly different from those of the preceding Period III, Ghirshman (1938:58,66) interprets the Proto-Elamite occupation at Sialk as the result of an invasion from Susa, an invasion with both political and economic ends.

#### TAL-I GHAZIR

Tal-i Ghazir is a large complex of five mounds in the Ram Hormuz Plain of Khuzistan. It lies between the Zagros Mountains and the alluvial plains of the Karun River and is situated on one of the major historical routes onto the southern Iranian Plateau (Hansman 1972:103). The site was excavated in 1948 and 1949 by Donald McCown; the results of his work are summarized by Caldwell (1968) and, for the Proto-Elamite remains, Whitcomb (1971).

Ghazir was more or less continuously occupied from the late 5th until the early 3d millennium B.C., with the uppermost levels of the site identified as Proto-Elamite on the basis of the excavated ceramics and a single tablet fragment with numerical signs (Whitcomb 1971:37). A storeroom containing a series of large polychrome jars, the size of the mud bricks used in constructions, and the use of mud bricks to fill rooms in preparation for subsequent building are generally paralleled in the ABC Banesh deposits at Malyan. Unlike the Proto-Elamite sites in the highlands, however, Ghazir seems to exhibit occupational continuity from Uruk to Proto-Elamite levels. Yet the site does not appear to be part of a regional settlement system: surveys in the area have not located any other sites with either Late Uruk or Jemdet Nasr/Proto-Elamite polychrome pottery (Wright 1969:7 and personal communication, 1979).

#### TEPE YAHYA

Tepe Yahya is a high circular mound in the Soghan Valley, approximately 225 km south of Kerman. Although the valley is poorly watered in absolute terms, it is one of the more habitable spots in the region. Important chlorite mines (chlorite is a soft black mineral similar to steatite) were located in this area in the later half of the 3d millennium B.C., but there is no compelling evidence that the Proto-Elamite settlement at Yahya was situated to exploit this resource. Several fragments of undecorated chlorite bowls have been found in the IV-C (Proto-Elamite) levels (Lamberg-Karlovsky 1976:73), but chlorite is relatively infrequent even at Yahya and very rare or absent in all other known Proto-Elamite sites.

The Proto-Elamite tablets, tablet blanks, seals, seal impressions, and ceramics at Yahya come from a Period IV-C building (Lamberg-Karlovsky 1971; 1972a:92).<sup>6</sup> It appears

that they represent the arrival of outsiders (Lamberg-Karlovsky 1976:78-79) who used both local and foreign styles of pottery and who were involved with the indigenous population but lived apart in their own buildings on only a few sites.

This interpretation is supported by a variety of data. Surface surveys of the Dowlatabad and Soghan regions revealed 67 sites with Yahya V-A pottery, 27 sites with Aliabad ware, and only three sites with IV-C ceramics (Lamberg-Karlovsky 1977:37 and 1978:116). If these ceramic complexes are thought of as sequential, they imply a precipitous decline in the regional population. However, there are good reasons to believe that the Aliabad and IV-C complexes may be partly or fully contemporaneous. First, both Yahya V and IV-C ceramics were found in the IV-C architectural levels (Lamberg-Karlovsky and Tosi 1973:32). This would indicate a degree of continuity between the periods and hence imply that Aliabad and IV-C ceramics were in use at the same time. Second, beveled-rim bowls and Banesh trays, both Yahya IV-C types, were found in the same levels as Aliabad ware in excavations at Tal-i Iblis (Chase, Caldwell, and Fehervari 1967: figs. 24 and 26). Iblis is reasonably close to Yahya, and the data there indicate a clear chronological overlap between Aliabad and IV-C ceramics. I suggest that the Aliabad and IV-C sites in the Yahya region were occupied contemporaneously, with the Aliabad ceramics representing a southern Iranian regional development and the IV-C material reflecting the movement of foreigners into this part of southern Iran.

The separation of foreigners from locals at Yahya is indicated by several facts. Proto-Elamite-style ceramics make up less than 15% of the corpus of finds from IV-C levels, and they are concentrated in a single building complex. This complex contains the remains of administrative activities (economic-type tablets, seals, and sealings), and the presence of several large jars shows that something was being stored there. However, other kinds of pottery and hearths in areas B, C, and E (Lamberg-Karlovsky and Sabloff 1979:155) imply that this structure served domestic as well as administrative and storage functions. Other Period IV-C structures at Yahya that have been identified as domestic units contained almost none of the Proto-Elamite-style pottery (Lamberg-Karlovsky 1977:37). In short, a group of people using different kinds of pottery was living and working in the building complex where the tablets and tablet blanks were found. I believe this implies the presence of ethnically different groups at Yahya during this period, but it is also possible that these distributional patterns resulted from class or functional variation.

#### SHAHR-I SOKHTA

Shahr-i Sokhta, located in the Helmand River Basin of eastern Iran, represents the easternmost extension of the Proto-Elamite writing system. A single economic-type tablet was found in the lowest level of the site, stratigraphically associated with about 20 seal impressions whose style confirms the connection between Shahr-i Sokhta and Proto-Elamite developments in the west (Biscione, Salvatori, and Tosi 1977:105; Amiet and Tosi 1978). Parallels of the illustrated impressions are with geometric seals from the Diyala Sin Temple Levels III-V<sup>7</sup> and

Tosi 1973:figs. 104 and 114) are not the particular type taken as diagnostic of Early Dynastic I times (Hansen 1965:209). In my opinion they are like the Banesh straight-sided goblets found on the Iranian Plateau from about 3300 B.C. to 2800 B.C. (Alden 1979:102-4, figs. 32:1-9 and 59:4). Consequently, they cannot accurately date the IV-C occupation.

<sup>7</sup> Specific parallels are as follows: Tusa (1977:255 middle row left) with Frankfort (1955:pl. 21:216 [Sin V]); Tusa middle row middle with Frankfort pl. 13:103 (Sin IV); Tusa middle row right with Frankfort pl. 8:52 (Sin III); Tusa bottom row left with Frankfort pl. 8:50 (Sin III) and pl. 13:103 (Sin IV); Tusa bottom row right with Frankfort pl. 16:156 and 157 (Sin IV). There are also good

<sup>6</sup> At this point a chronological caveat is perhaps appropriate. The presence of "solid-footed goblets" at Yahya is taken to indicate a Jemdet Nasr date for the Proto-Elamite occupation. However, the illustrated examples from IV-C contexts (Lamberg-Karlovsky and

with material of Proto-Elamite style from Susa (Amiet and Tosi 1978:24–29). In conjunction with the signs on the tablet, a MASCA-corrected radiocarbon date of  $3,222 \pm 95$  B.C. (TUNC-61) supports a date of 3200–3000 B.C. for those deposits (Biscione et al. 1977:83).

It is significant that the ceramics associated with the tablet and seal impressions at Shahr-i Sokhta show parallels with pottery from eastern Iran and not with Mesopotamian, Susian, or Banesh ceramics (Tosi 1976:168). This pattern appears to make Shahr-i Sokhta unique among the sites that have yielded Proto-Elamite tablets, for the tablet and sealings are the only indications of a western presence at this site. However, the tablet was discovered on the last day of excavation in 1975, and little work has subsequently been done in that part of the site. Further excavations might demonstrate that the Shahr-i Sokhta Proto-Elamite materials come from a context similar to that at Yahya or Sialk.

## RELATED SITES WITHOUT TABLETS

Ceramics from a number of other sites in highland Iran show parallels with pottery from levels that have yielded Proto-Elamite tablets in the sites just described, indicating that they were occupied coterminously with and in some way related to these sites. Many of these parallels are specific enough to imply that all these sites participated in similar kinds of activities and had similar cultural affiliations. However, the available data do not allow us to do more than list these locations as showing Proto-Elamite parallels. They cannot be tied to the chronology of figure 2 in any exact way, and their particular cultural and historical associations with the Proto-Elamite phenomenon remain obscure.

In the north, Cheshmi Ali (collection in the British Institute, Teheran), Gabristan (Neghaban 1977:38; Majidzadeh 1977:61), Giyan (Dyson 1965:232), Deshaver (Braidwood 1960:697), and several sites in the Luristan region—the Mahidasht (Levine 1976:287, 289), Hulilan (Mortensen 1975 and 1976:45), Malayer (Howell 1979:157), and Tarhan/Rumishan/Kuh-i Dasht plains (Goff 1971:139–46)—have yielded occasional beveled-rim bowls or other Uruk-related ceramics. There is no published mention of Jemdet Nasr- or Banesh-style polychrome pottery from these areas, and in fact much of Luristan may have been abandoned between the mid-4th and the early 3d millennium B.C. (Mortensen 1976:47).<sup>8</sup>

In the province of Fars very few Proto-Elamite-related occupations have been reported outside of the Kur River Basin. In the high Zagros valleys of northwestern Fars, Nissen and Zagarell (1976:167) found none in the Chogha Khowr, Gandoman, or Imam Qais plains. Zagarell (1975:148), however, reports several sites with Banesh-related ceramics in the Khana Mirza Plain. Stein (1936:208–10 and pl. 20:21,23) apparently discovered a site with good Banesh ceramics at Mung, about 80 km northeast of Persepolis. Surveys in the Behbahan Plain (Nissen and Redman 1971), Shiraz Basin (W. M. Sumner, personal communication), Fasa/Darab and Jahrom Plains (de Miroschedji 1973), and Kazerun Plain (D. S. Whitcomb, personal communication) have failed to discover any Banesh-style ceramics. Whitcomb found some

general parallels between the Shahr-i Sokhta impressions and materials from Yahya, the TUV-area Banesh deposits at Malyan, and Susa. These are all piedmont-style impressions, which have an extended distribution in northern Mesopotamia.

<sup>8</sup> Louis Levine (personal communication) has written to me that “we now have a Jemdet Nasr bichrome vessel from Mahidasht, and plenty of ceramic to fill at least part of the gap between the mid-fourth and mid-third millennia B.C.” Thus, new data from one part of this area contradict Mortensen’s observation. It would appear, however, that these are not Proto-Elamite-style ceramics and hence should not be taken to imply a northern extension of the Proto-Elamite sphere of influence.

sherds of Banesh style at Bushire, but little if any of the material illustrated by Pezard (1914) would appear to be Banesh.<sup>9</sup>

To the east, at Tal-i Iblis, some ceramics of the Aliabad, Mashiz, and Nejafarabad (Iblis IV, V, and VI) phases show clear parallels with Proto-Elamite material (Chase, Caldwell, and Fehervari 1967). Survey of the surrounding region revealed five small sites with Aliabad or Mashiz pottery, and the search was reported as being “far from complete” (Chase, Fehervari, and Caldwell 1967:73,85). Fragments of copper ore and remains of smelting operations suggest that these settlements were located to exploit the metallurgical resources of the area. From the same region, Lamberg-Karlovsky (1968:167) reports beveled-rim bowl forms from Tepe Langar, about 30 km southeast of Kerman.

Finally, there are indications that a portion of the site of Shahdad was occupied contemporaneously with the Proto-Elamite sites described above. Salvatori (1977) reports surface finds of ceramics similar to Yahya V-A, IV-C, and IV-B material, and incised markings on several excavated ceramic vessels appear in some ways similar to Proto-Elamite pictographic signs (see particularly Hakemi 1972:pl. 22c). However, until more comprehensive reports are published, it is impossible to say anything about the degree or nature of Proto-Elamite contacts with Shahdad.

## REGIONAL SETTLEMENT PATTERNS

Although archeological surveys have been made around almost all sites with known Proto-Elamite occupations, only three regions have enough sites to encourage detailed examination: the Susiana Plain, the Izeh Plain, and the Kur River Basin. The first of these is environmentally an eastern extension of the Mesopotamian lowlands, the second is an intermontane valley in eastern Khuzistan, and the third is a highland plain near the inner edge of the Zagros.

### THE SUSIANA PLAIN

The Susiana Plain, at the foot of the Zagros Mountains in southwestern Iran, has received the attentions of archeologists since the middle of the 19th century. Excavations and surface surveys by American, French, and Iranian expeditions have made this region better known than any other in Iran. Yet there are serious gaps in our knowledge of the prehistoric record in this area, and one of those gaps includes much of the Proto-Elamite period.

Three problems affect any consideration of the Proto-Elamite period occupation in the Susiana Plain: there has been very little controlled excavation of Proto-Elamite remains, repeated surface collecting has removed a significant portion of the diagnostic pottery from many sites, and the physical characteristics of the known Proto-Elamite sites indicate that they may be more difficult to discover and more subject to destruction than sites of other periods. In brief, Proto-Elamite occupations are likely to be proportionately underrepresented in the Susiana survey data.

The ceramic types that mark the Proto-Elamite period

<sup>9</sup> Pezard (1914:pl. 5) shows a series of impressed bands on large jars, which, although common in Banesh assemblages, are not at all chronologically distinctive. Plate 5:17 is a type of pedestal base which would not be out of place in a Kaftari assemblage but whose rounded base and straight, parallel sides are not found in the Banesh. Plate 4:25 (a short tube spout) and 6:2 (a small painted beaker or jar) may be Banesh but again are not distinctive. However, Elizabeth Carter (personal communication) reports examining sherds from Bushire in the Louvre which were clearly Banesh.

should be well known, for the tablets defining the period were discovered at Susa in 1901 and an immense volume of remains from the era has since been excavated. However, the techniques employed in those excavations were sadly lacking, and only in the 1970s have good descriptions of stratigraphically excavated Proto-Elamite material from Susa been published. These represent only small samples from a large and complex site and obviously do not reflect the full range of material from the period. Furthermore, some of the most distinctive characteristics of Proto-Elamite ceramics are slips and painted decoration, and these are often eroded on sherds that have been exposed on the surface of a site. Without accurate knowledge of the range and patterns of chronological variability in Proto-Elamite ceramics and without common ceramic markers that will be preserved in surface collections, it is difficult to identify Proto-Elamite occupations in the Susiana through surface survey.

I do not know how many archeologists or interested amateurs have collected surface materials from sites in the Susiana Plain, but the number is large. The degree to which sites have been picked over can best be estimated from the proportions of diagnostic sherds in controlled surface collections. Table 1 shows counts of diagnostic sherds (rims, bases, and decorated body sherds) from complete pickups of 5% stratified random samples of 10 × 10 m squares from four Susiana sites and compares them with counts from seven sites in the highland Kur River Basin.<sup>10</sup> For the Susiana sites 8.5% of the sherds were diagnostic, while the comparable figure for the Kur Basin sites is 10.6%. If we assume that the proportions of diagnostic sherds were originally similar in the two regions and that no sherds were removed from the Kur Basin sites, then about 20% of the diagnostic sherds originally present have been collected from the Susiana sites. At more prominent sites, such as XS49, collecting has had an even more dramatic effect. Several sets of surface collections from sites in the Susiana Plain are available for examination, but it appears that most sherds were removed decades ago or by nonprofessionals and are now lost.

The problem of the physical characteristics of Proto-Elamite sites may be the most serious. It would appear that Proto-Elamite settlements were often in entirely new locations, for 14 of the 31 Susiana sites with reported Proto-Elamite occupations had never been previously occupied. These sites tend to be small and low-lying and would be particularly susceptible to

burial beneath later occupational debris, burial by continuing alluviation, or destruction by land leveling or repeated plowing. The relatively short duration of the period, the size and location of typical sites, the removal of distinctive sherds, and our limited knowledge of local chronological markers combine to make Proto-Elamite occupations more difficult to discover in the Susiana than sites of most other periods.

The Late Uruk period (3400–3200 B.C.) in the Susiana has been described in some detail by Johnson (1973, 1975, n.d.a). During that period the approximately 53 ha. of settlement were dominated by three large centers—Susa, Abu Fanduweh, and Chogha Mish. Johnson concludes that by the Late Uruk the earlier unified administration of the region had broken down and Chogha Mish had established itself as an independent polity; he argues that this split was instigated by the inhabitants of Chogha Mish in order to obtain exclusive control over the productive potential of the eastern Susiana (Johnson n.d.a: 60–62). At the end of the Late Uruk, Chogha Mish was abandoned, presumably as a result of competition from Susa.

In the subsequent period (Early Susa III or Proto-Elamite),<sup>11</sup> the populated area of the Susiana appears to have declined to below 25 ha. The Wright/Wenke survey (see Schacht n.d. and fig. 3) records a total of 31 sites, including Susa, with some indication of Proto-Elamite occupation, but at most of these there were only one or two diagnostic sherds. In my resurvey of the region, visiting 29 of the sites, I found no diagnostic Proto-Elamite-style pottery on ten of those sites and got good collections from only two sites, XS-39 and XS-308, which are less than a kilometer apart. I apparently missed the particular hillocks north of Chogha Mish which, as XS-396, had yielded a good collection of diagnostic material in the Wright/Wenke survey, although it is possible that earlier surveys had removed most of the diagnostic sherds. In any event, three locations—Susa, XS-39/XS-308, and XS-396—appear to have had substantial permanent occupations during the Early Susa III period. Figure 3 shows that these sites are aligned along the northern of two Middle Uruk exchange routes (Johnson 1975: fig. 23) crossing the Susiana Plain, and it seems likely that they mark a similar route during the Proto-Elamite. Other sites were occupied either sporadically, perhaps by transhumant pastoralists, or by very small groups.

Sites XS-39, XS-308, and XS-396 cover 1.4, 2.2, and 3.2 ha. respectively, but the Proto-Elamite sherd scatter on XS-39 is limited to about 0.2 ha. on the very top of the mound. The area of occupation at Susa is more difficult to estimate. The entire Acropolis (9 ha.) was occupied, as is evidenced by finds of tablets from the south (Acropole I and de Mecquenem's Sondage II), north (de Mecquenem's Sondage I) and central (Steve and Gasche 1971) areas of the mound. There was also some occupation beneath the western edge of the Ville Royale (Carter 1981), although this occupation did not extend to the area of Ghirshman's Ville Royale B excavation. I rather arbitrarily assign the Ville Royale Proto-Elamite settlement an area of 2 ha. There is no solid evidence that any other part of Susa was occupied during Proto-Elamite times.<sup>12</sup> Thus, Susa

TABLE 1

PROPORTIONS OF DIAGNOSTIC SHERDS FROM SELECTED SITES

REGION AND SITE	HEIGHT (M)	AREA COL- LECTED (M <sup>2</sup> )	TOTAL SHERDS	DIAGNOSTIC SHERDS*	
				Total	Percent
Susiana					
XS49.....	12.0	800	10,303	742	7.2
XS469.....	3.3	300	834	65	7.8
XS308.....	1.5	900	3,879	468	12.0
XS396.....	0.5	300	1,728	143	8.2
Kur Basin					
8F8A.....	2.9	1,200	2,244	248	11.1
7F1.....	2.2	1,500	10,803	1,289	11.9
8G38.....	1.0	186	1,562	221	14.1
7F8.....	0.5	400	1,144	143	12.5
7G7.....	0.5	1,700	18,214	1,741	9.6
8G2.....	0.5	800	4,823	562	11.7
8J2.....	0.5	600	3,507	287	8.2

<sup>a</sup> Rims, bases, and decorated body sherds.

<sup>10</sup> These collections were made by me during a 1976–77 resurvey of sites with reported Proto-Elamite occupations in the two regions. The collections, which have not yet been thoroughly analyzed, are stored in the Iran Bastan Museum in Teheran.

<sup>11</sup> This statement glosses over an area of some controversy. The Acropole I sounding reveals a break between Levels 17 (Late Uruk) and 16 (Proto-Elamite) (Le Brun 1971: 211; 1978a), a break manifest both stratigraphically and in the material remains. This may represent the abandonment for a few generations of this small part of Susa, an accident of little historical significance, or it may reflect a real gap between the Late Uruk and Proto-Elamite occupations of Susa and perhaps of the Susiana (Perrot 1978). Such a break would imply the occurrence of major sociocultural changes in the region, as suggested by Amiet (1979). This second possibility is at least tentatively supported by the proportion of Proto-Elamite sites founded in entirely new locations. Unfortunately, the available evidence is inconclusive, and further excavations will be required to resolve this question.

<sup>12</sup> It is certainly possible that there are other areas of Proto-Elamite occupation beneath the enormous extent of later occupations at this site. De Miroschedji (1976) describes an Uruk-period kiln from an

## THE IZEH PLAIN

has an estimated area of 11 ha. during the Early Susa III (Proto-Elamite) period.

The locations of the minor Proto-Elamite settlements in the Susiana show an interesting pattern: 21 of 27 (78%) are in the triangular area between the Dez and Shureh Rivers and south of the line between XS-308 and XS-396. These 21 sites can be further divided into two groups. The northern sites are scattered 1–8 km to the south of either XS-308 or XS-396, within an easy day's round trip with a flock of sheep or goats. The southern sites are 11–17 km distant, a day's travel one way for a herd of animals, and concentrated along the edges of the Dez floodplain. The remaining 6 settlements are between the Dez and Karkeh floodplains and at least 11 km from Susa. The concentration of minor settlements in a protected region between two rivers suggests that the area north of XS-308/XS-396 was potentially unsafe; if this was the case, then the threat may have come from transhumant groups living in the Zagros Mountain valleys.

In summation, during the Early Susa III (Proto-Elamite) period the population of the Susiana Plain declined to a minimum. Only three important settlements, covering a total of 16.6 ha., are known. Susa is the largest of these, but it appears to be considerably smaller during this period than it was in the earlier Uruk or than it was to become in the later 3d millennium B.C. Aside from these three locations, occupations in the plain are evidenced by only a few sherds at each site. These minor settlements probably represent only sporadic seasonal utilization by small groups of people and their herds.

area to the north of the Acropolis, and Pierre Amiet has kindly informed me that two Proto-Elamite tablets are reported from a burial in the Donjon (de Mecquenem et al. 1943: 103, #314). However, neither of these constitutes evidence of a larger occupation at Susa during this era.

The Izeh Plain, surveyed in 1975, lies in the outer edge of the Zagros Mountain arc in southwestern Iran. It is approximately 750 m above sea level and covers about 135 km<sup>2</sup>, of which 75 km<sup>2</sup> (56%) is good agricultural land (Wright 1979a: 38). This plain is a closed, internally drained basin with seasonal saline lakes and marshes in the two lowest spots of the alluvium. Winter rainfall is usually sufficient for cereal crops, but orchards and vegetable gardens require irrigation.

The Izeh Plain survey involved both intensive walking and the standard (for the Middle East) technique of vehicle and air-photo survey. Consequently, the degree of site recovery should be at least as good as in the Susiana or Kur Basin surveys. Ceramics were similar enough to those of the Susiana and Ram Hormuz Plains to allow the Izeh occupations to be dated without undue difficulty.

Only one Middle Uruk settlement was located by the surveyors, "and during the Late Uruk, the entire area seems to have been abandoned" (Wright 1979a: 59). However, the Proto-Elamite population of the region increased remarkably. Sajjidi (1979: 93–96) reports a total of 12 Proto-Elamite sites covering 51.6 ha. The largest site, 12.6 ha., is called a town, while four sites between 5.8 and 3.3 ha. in size are called villages. There are two additional smaller settlements. Four of the remaining sites (from 9.3 to 1.0 ha.), which have no large mounded areas and only light surface scatters of ceramics, are identified as camps. The final site, 4.4 ha., is of uncertain type. These last five sites, thought to represent seasonal occupations, are not considered in estimating the regional population (Wright, personal communication), which Sajjidi suggests

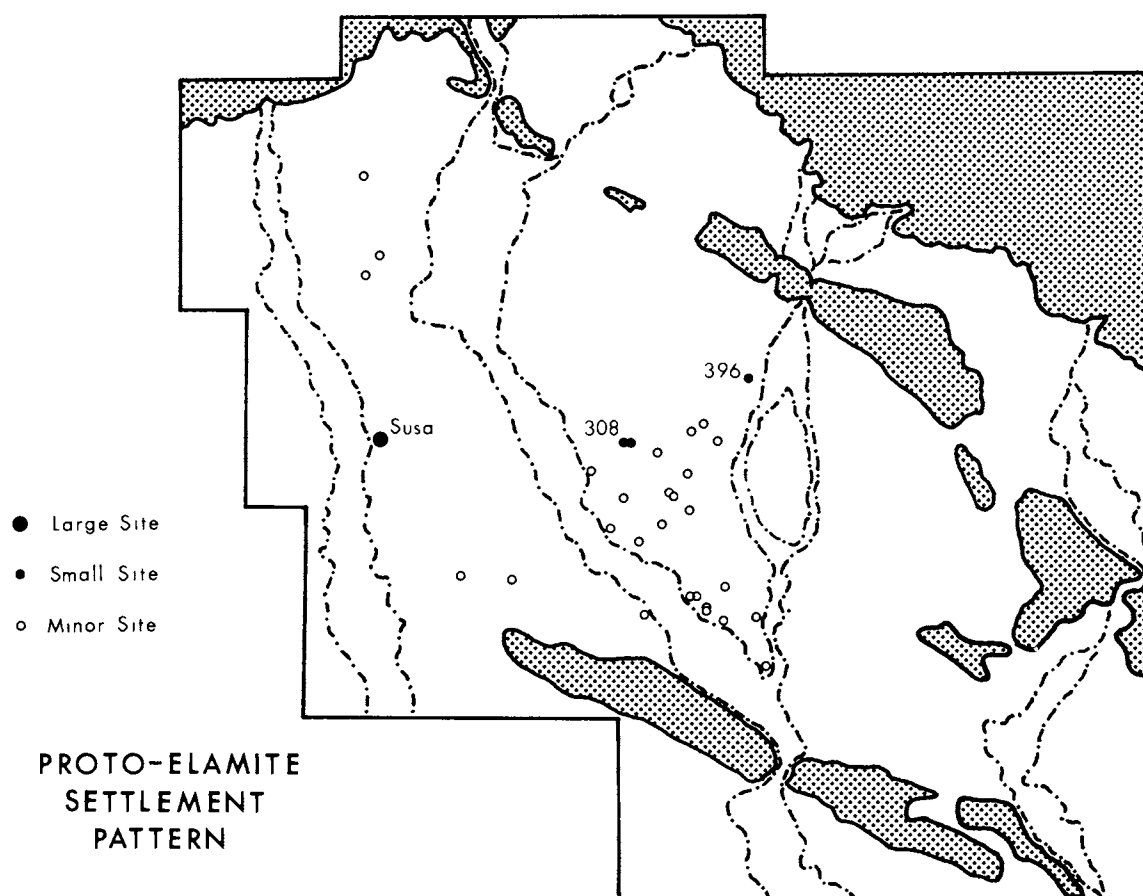


FIG. 3. Proto-Elamite period occupation in the Susiana Plain. Dashed lines indicate the floodplains of major rivers, and dotted areas represent mountains.



would have been about 6,000 given an occupation density of 200 persons per hectare. The more likely figure for highland regions of Iran, 100 persons per hectare (Watson 1979:281; Kramer 1978:table 2), would halve this estimate.

These data suggest that Izeh had the densest Proto-Elamite occupation of any region in Iran. However, the area's importance is almost certainly exaggerated by an unusual degree of preservation and discovery of Proto-Elamite sites and by the unavoidable lumping of sequential occupations as simultaneous. These considerations aside, the Proto-Elamite population of Izeh does appear to be at least as great as that of the much larger Susiana Plain. In addition, the largest Proto-Elamite site in Izeh was apparently as large as Susa. It must be emphasized that the apparent increase in Izeh's population during this period is so great that it can only be accounted for by the immigration of a fairly large parent population.

#### THE KUR RIVER BASIN

The importance of the Kur River Basin during Proto-Elamite times has only been recognized since the identification of Banesh ceramics in the late 1960s (Sumner 1972:58-59). Since then, however, the period has been studied intensively. Excavations at Malyan, the largest Proto-Elamite settlement known, and a reexamination of all known Banesh sites (Alden 1979) have brought this era from obscurity to a position where the outlines of its chronological development and economic organization can be discerned. Work recently completed (Nicholas 1980, 1981) adds important dimensions to this emerging understanding, particularly in the areas of household-level organization and economic activity.

The Kur River Basin (Sumner 1972:9-14; Kortum 1976) lies at an elevation of about 1,600 m between the innermost ridges of the Zagros Mountains. Rainfall is marginally adequate for crops of winter wheat and barley, but, as in Izeh, orchards and gardens are irrigated. The area of the valley is about 2,200 km<sup>2</sup>, of which just over half is fully arable and 22% is moderately salinized (Alden 1979:30). The valley is frost-free from early April through mid-November, and most precipitation occurs between November and March, significant amounts of it as snow.

Banesh ceramics are found at 35 sites in the region, 23 of which can be dated to particular phases of the Banesh period. In addition, there are 6 sites which have single sherds of possibly Banesh date (Alden 1979:appendices A, B, and E). All the comments that follow pertain to the 23 dated settlements only. Chronological and population data are summarized in table 2.

During the Initial phase (3400-3300 B.C.), it appears that outsiders moved into the western third of the Kur River Basin and settled there. The earlier population, which used Lapui-style ceramics (Sumner 1972:40-42), seems to have been gradually incorporated by the newcomers. It is likely that this

merger required several generations and that for a time both Banesh and Lapui ceramics were in use. In the Early phase (3300 to 3200 B.C.), specialized production of pottery and indirect distribution through a central location can be inferred from the surface distribution of both chaff- and grit-tempered ceramic types (Alden 1982). Interregional trade in three types of vessels (two made of different kinds of stone and the third of plaster decorated with inlay) appears to have been channeled through the same central location. This distribution site was not, however, a population center. It is interesting to find evidence of specialized and apparently administered production without evidence of a hierarchy of settlement sizes, warning us that such complex economic organization cannot be assumed to have been absent because there is no obvious site-size hierarchy.

The Early-phase pattern of economic organization seems to have continued through the Early Middle phase (3200-3050 B.C.), but an additional feature, the drawing together of settlements, implies that some kind of external pressure may have threatened the Banesh population. The agglomeration culminates during the Late Middle phase (3050-2900 B.C.), accompanied by the appearance of Malyan as a major population center 45 ha. or more in size. This makes Malyan the largest Proto-Elamite site known, comparable in size to the small urban centers described by Adams and Nissen (1972:18) in the Warka region.

It is significant that, although settlements are drawing closer together throughout this period, the most intense agglomeration occurs between the Early and the Early Middle phase. Malyan apparently grew most rapidly between the Early Middle and Late Middle phases, when it more than quadrupled in area. Moreover, its rapid growth was not accompanied by an equivalent reduction in the settled area of hinterland sites. Since it seems unlikely that the local rate of population growth increased drastically in the Early Middle phase, the appearance of this urban center cannot be attributed to population growth or redistribution within the Kur River Basin. I propose that Malyan grew through greatly increased immigration into the region. Ceramic parallels between Susa Acropole I:16 and Late Middle Banesh (Alden 1979:60-62) indicate that these phases were generally contemporaneous; thus the rapid population growth observed in the highlands is paralleled by a population decline in the lowlands. Given the similarities in material cultural inventory between these two regions, it seems reasonable to suggest that many of the residents of the Susiana Plain moved to the Kur River Basin rather than, or in addition to, going to Mesopotamia as is suggested by Johnson (1973:156 and 1975:337).

The Late phase is one of apparent decline. It remains poorly defined but seems to have lasted from 2900 B.C. to about 2600 B.C. Malyan gradually became smaller, and Banesh ceramics developed into a distinctive, regionally limited complex. If regional populations are estimated by methods accounting for the greater length of particular chronological subdivisions, as is proposed by Weiss (1977:357-59), the population of the Kur River Basin during the Late phase dropped markedly. The extent of this decrease cannot be determined until more is known.

Within the Kur River Basin, Proto-Elamite tablets have been found only in Late Middle Banesh deposits at Malyan, the only levels in which any significant excavations have been made. These tablets, all of the economic type, show that the Proto-Elamite writing system was fully developed by this period. Because both ceramic development and important elements of the settlement system show clear continuity throughout the Banesh period, it seems apparent that this entire era is relevant to the Proto-Elamite phenomenon even though tablets are known only from a single phase. Whether numerical-type tablets exist in earlier deposits remains an open question.

TABLE 2

BANESH POPULATION ESTIMATES FOR THE KUR RIVER BASIN

PHASE	YEARS	POPULATION		
		Hinter-land	Malyan (estimated)	Total
Initial.....	3400-3300	1,015	0	1,015
Early.....	3300-3200	1,375	500	1,875
Early Middle..	3200-3050	1,125	1,000	2,125
Late Middle...	3050-2900	1,150	4,500	5,650
Late.....	2900-2600	1,120	4,000	5,120

NOTE: Based on Alden (1979:67-81) and using an estimated maximum settlement density of 100 persons per hectare.

These archeological data allow us to estimate the amount of population growth and movement, the breadth of Proto-Elamite influence on indigenous cultures, and the rate of adoption of foreign traits across the Iranian highlands.

Godin, Sialk, and Yahya show a similar pattern. Proto-Elamite occupations in these areas are limited to a single site, where they occur on the top of a previously occupied mound. At Godin, and perhaps at Sialk and Yahya also, the Proto-Elamite buildings are physically separated from the rest of the settlement. At Godin and Yahya the foreign-style pottery comprises only a portion of the ceramic inventory, and ceramics of local tradition remain important. At Sialk, Period III types of pottery are said to be rare in the Proto-Elamite levels (Ghirshman 1938: 61), but this is an impressionistic rather than a quantified observation.

This pattern seems to indicate that small groups of outsiders were moving into hinterland areas to the north and east of their original homelands. Few people actually moved, however, and both the newcomers and the previous inhabitants seem to have retained much of their original style of material culture. Thus, for Godin at about 3200 B.C. and Sialk and Yahya some two centuries later, it appears that direct, sustained contacts did not result in any widespread adoption of foreign-style materials in either the occupied sites or their immediate hinterlands. This in turn suggests that the groups were ethnically and probably linguistically distinct, that the outsiders did not exercise political control, and that the local populations did not admit to any inherent superiority of the foreign culture. The small scale of apparent foreign residence is inconsistent with the notion that the outsiders exercised military control over Godin, Sialk, or Yahya. In all likelihood, the foreign settlement was tolerated because it was in the economic or social interest of the local group.

The location of these three Proto-Elamite enclaves on the highest parts of their sites is suggestive. The advantages of such a location are greater defensibility and an unobstructed view, while the principal disadvantage is having to walk up and down a short hill every time one enters or leaves one's house. Foreign merchants, in a very real sense strangers in a strange land, might well consider the advantages worth the walk. Locals, at least in times of general stability, might value convenience more than a marginally greater safety. It might be argued that these locations reflect domination by the outsiders, but it seems improbable that such small groups controlled such large areas. Thus, the locations of the Proto-Elamite buildings at Godin, Sialk, and Yahya can be taken to support the interpretation of their occupants as potentially vulnerable outsiders at these sites.

At Shahr-i Sokhta there is as yet no indication of the permanent establishment of a foreign presence. The single Proto-Elamite tablet indicates the presence of someone who knew and used that writing system, while the seal impressions imply either that someone at the site owned a collection of foreign-style seals or that sealed containers from the west were opened at the site. The limited data from this level at Shahr-i Sokhta would seem to indicate that this foreign presence had no impact on the material culture of the site. However, Daniel Potts (personal communication) has commented that if Susa is seen as a gateway to Mesopotamia, then Shahr-i Sokhta should be recognized as a gateway to Turkmenia, Bactria, and beyond. In the light of this understanding, it would not be at all surprising if the earliest levels at Shahr-i Sokhta were to yield evidence for a much more important Proto-Elamite presence.

The nature of the contact that occurred in the Kur River Basin was completely different. Here there is evidence for several waves of migration into the region by bearers of Proto-

Elamite material culture. The picture this description brings to mind, of caravans laden with peculiar impedimenta marching through mountain passes, is almost ludicrous, but it may not be too far from the truth. In the Kur River Basin, the introducers of Proto-Elamite-style ceramics (ceramics are all we have from the earliest settlements, because none have been excavated) first settled in established Lapui communities, where they were probably relatively isolated minorities. Their presence soon expanded, however, and by the end of the hundred-year-long Initial Banesh the newcomers had established an independent, integrated, and self-sustaining society in the valley. The picture that we have of Lapui society, "with little organization above the village level" (Sumner 1972: 259), implies that the original residents of the Kur River Basin would have been in no position to offer any real resistance to the Banesh incursion. The actual extent of this incursion is unclear, however, for we do not know what proportion of the Banesh population moved into the valley and what proportion was recruited from the indigenous Lapui occupants.

In summation, the shared cultural elements distinguishing the Proto-Elamite phenomenon were introduced into an enormous area of the Iranian highlands by small groups of people. The evidence for forcible intrusion is weak, even at Sialk. In most regions these newcomers seem to have had little lasting influence, but in the Kur River Basin many traits of the foreign material culture were adopted and retained. It is only in this part of the highlands that the Proto-Elamite phenomenon had a long-lived effect, for the Izeh Plain was apparently abandoned by the middle of the 3d millennium B.C. (Wright 1979a: 128).

One unanswered question concerns the home of these foreigners. For Godin, ceramic and glyptic parallels imply that they came from the Susiana Plain during Susa Acropole I: 18-17 times (Weiss and Young 1975: 14). Close parallels said to exist between the Izeh Proto-Elamite ceramics and those of Susa Acropole I: 16-14b (Sajjadi 1979: 93) may indicate that Izeh was repopulated from the same region. It is likely that the Proto-Elamite occupations at Sialk, Yahya, and Iblis represent small populations moving into these sites from somewhere in the Iranian highlands during the middle phases of the Banesh period. The Kur River Basin, however, presents a more complex problem. Here Early Banesh ceramics are readily paralleled in Susa Acropole I: 17 (Alden 1979: 60), but there are clear differences between Initial Banesh ceramics and the examples of earlier materials that are available from Susa (see, for example, Canal 1978a: fig. 26). At least three explanations for this pattern can be proposed: (1) Upon further examination, Susa Acropole I: 23-19 ceramics will prove to be like Initial Banesh ceramics and the latter complex can then be explained as a direct transplant from the lowlands. (2) The Initial Banesh ceramics represent an in situ hybridization of local styles and material introduced from the lowlands. (3) Initial Banesh ceramics were introduced into the Kur River Basin from some as yet unidentified highland region that was in contact with and had borrowed a number of ceramic styles from a lowland Late Uruk assemblage. I strongly favor the second of these possibilities. The first can be tentatively rejected on the basis of the small samples available from stratigraphic excavations in the pre-Late Uruk levels at Susa (Dyson 1965, 1966; Le Brun 1971; Canal 1978a), which have yielded material quite different from that found in the Initial Banesh. The third possibility cannot be rejected out of hand, but most major valleys in the southern Zagros have been at least cursorily examined by competent professional archeologists without revealing any such unknown source area.

These movements into and within the highlands could have been caused by any of four factors: (1) population growth in

a nuclear region, (2) an attempt by an expanding lowland polity to control highland populations, primarily to extract tribute, (3) military/political pressures in the lowlands forcing certain groups of people to migrate into the highlands, or (4) an attempt by lowland societies to control the movement of highland resources into the Mesopotamian alluvium. None of these explanations need be exclusive, particularly given the length of time between the earliest and latest manifestations of foreign appearance on the Iranian Plateau.

There is no evidence that population growth forced people to move from Susa or its environs during Late Uruk or Proto-Elamite times. In fact, the population of the Susiana declined from the Middle Uruk onwards. The evidence for habitation by very small groups of outsiders in most of the affected highland regions makes the second suggestion equally unlikely; such small groups could neither effectively control large areas nor safely extract any significant amount of tribute. Little attention has been given to the third factor. The growing power of Sumerian city-states could well have encouraged many residents of the Susiana Plain to move to safer regions, and I suspect that this was at least partly the case. However, most interpretations of the Proto-Elamite phenomenon have invoked the last postulate—that the spread of Proto-Elamite writing and ceramic styles was related to an attempt to control the movement of highland resources into the lowlands of Mesopotamia (Lamberg-Karlovsky 1972*b*; Alden 1973; Beale 1973; Weiss and Young 1975; Biscione, Salvatori, and Tosi 1977:107). This consensus has led Lamberg-Karlovsky (1977:40) to comment that “there is a merchant madness imposed on the Iranian Plateau” and that any such single-cause explanation for a complex cultural phenomenon is likely to be unsatisfactory. I would agree that the control-of-trade postulate does not explain all the events relating to the Proto-Elamite phenomenon but believe that it can explain many of them.

## TRADE AND POLITICS IN PROTO-ELAMITE TIMES

The historical relationship between Elam and Mesopotamia has been described as one of “hereditary enmity, mitigated at the same time by equally persistent economic and cultural exchanges” (Hinz 1971:645). Archeologists have generally assumed that the protohistoric relationship was similar (Potts 1978*a*). The cultural exchanges are documented by the wide distributions of glyptic, architectural, and ceramic styles. Economic exchanges, i.e., the exchange of material goods and services, are evidenced by the appearance of highland-derived materials in the lowlands. However, the existence of such transfers is in itself of little interest. It is much more important to discover their specific causes, contexts, mechanisms, and consequences. Specifically, we would like to know more about the development of economic and political relations between the Proto-Elamite peoples and their Mesopotamian neighbors. One reconstruction of these relationships, based on the data just reviewed, is presented here.

A general increase in population and in the complexity of social and political organization occurred in the lowlands of Mesopotamia and Khuzistan during the 4th millennium B.C. These processes led to an increased demand for items of technological (copper, stone, wood, etc.) and ideological (silver, gold, semiprecious stones, etc.) significance. To insure access to these resources, the Uruk-period polities, generally considered to have been state-level organizations (Wright and Johnson 1975), appear to have encouraged or sponsored the settlement of individuals or groups along major trade routes and among indigenous populations. This Late Uruk pattern is evidenced by the presence of numerical-type tablets and complexes of Late Uruk-style pottery at Godin in Iran, at Habuba Kabira on the northern Euphrates (Strommenger 1973), and at Tell Brak in northern Syria (Iraq 1979). Late Uruk ceramic com-

plexes are found at Carchemish (Woolley 1952) and farther up the Euphrates at Samsat and at least three other sites in the Keban survey region (Ozdogan 1977:pls. 5, 12), as well as at Nineveh on the upper Tigris (Mallowan 1933). Although these sites have not yielded numerical-type tablets, they unquestionably represent the same general phenomenon: an Uruk expansion out of southern Mesopotamia.

Many of these settlements seem to have been situated to expedite trade of copper and semiprecious stones such as carnelian and lapis lazuli. Copper is readily available in both Iran and Turkey (Muhley 1973), and Berthoud (1979:114–15) has demonstrated that mines in the area of Sialk were one source of the copper found at Susa in late 4th-millennium-B.C. contexts. The most commonly used semiprecious stones, for both jewelry and stone vessels, appear to have come through Iran or from the Zagros Mountains, although specific source areas have been convincingly identified only for lapis lazuli (Herrmann 1968). The locations of these source areas and of settlements with Late Uruk-style ceramics imply the pattern of trade shown in figure 4 during the later Middle and Late Uruk periods, approximately 3350 to 3150 B.C.

The Initial Banesh, Godin V, Susa Acropole I:18-17, and Mesopotamian Late Uruk appear to be contemporaneous. However, the Initial Banesh ceramic assemblage is significantly different from the Late Uruk-style assemblages found elsewhere. Several common and distinctive ceramic features such as reserved-slip decoration and twisted handles are not found in Banesh material. An even more common characteristic of Late Uruk ceramics is cross-hatched incising. Vessels decorated with this technique are found at Susa (Le Brun 1971:fig. 51:6,7,9,10) and in the Susiana Plain (Johnson 1973), at Godin (Weiss and Young 1975:fig. 3:1*a*), across lower Mesopotamia (Adams and Nissen 1972:100), in northern Mesopotamia at Nineveh (Thompson and Hamilton 1932:pl. 61:1; Mallowan 1933:166 and pl. 50:9), and at Carchemish (Woolley 1952:229), but no cross-hatched incising has been found in the Kur River Basin even after considerable excavation and systematic surface survey.

The absence of these classic Late Uruk types in the Initial and Early Banesh assemblages may be an accident of archaeological discovery, but this seems doubtful. More likely, it reflects a distinction between the Uruk-related colonizations around the fringes of the Mesopotamian alluvium (including Susa in Acropole I:18-17 times) and an independent Proto-Elamite culture developing in the Iranian highlands. It seems clear that the Mesopotamian polities were attempting to control the flow of highland resources by establishing colonies along the most important regional trade routes and that during the Late Uruk they had no powerful competition. At this time the Kur River Basin was probably only one of a number of relatively unimportant regions feeding materials into the Uruk trading network, not meriting the investment necessary for colonization.

During this time the political situation in the Susiana Plain was quite complicated. A state level of organization is evident in the Middle Uruk period, with the local centers of Chogha Mish and Abu Fanduweh dominated by Susa (Johnson 1975 and n.d.*a*). During Johnson's Late Uruk there was a marked decrease in regional population and a clear indication of conflict between Susa/Abu Fanduweh and Chogha Mish. Johnson suggests that during the Middle Uruk the Chogha Mish region was being agriculturally exploited by Susa and that the breakdown of the Middle Uruk pattern resulted from the efforts of the Chogha Mish settlements to avoid such levies. Still, during the Late Uruk both Chogha Mish (via Ghazir) and Susa (via the Karkeh River and Godin) had unimpeded access to highland resource areas, and both appear to have been included in the Mesopotamian sociopolitical sphere.

This delicate balance was altered by the incursion of peoples from Azerbaijan and the Caucasus into the area of Hamadan

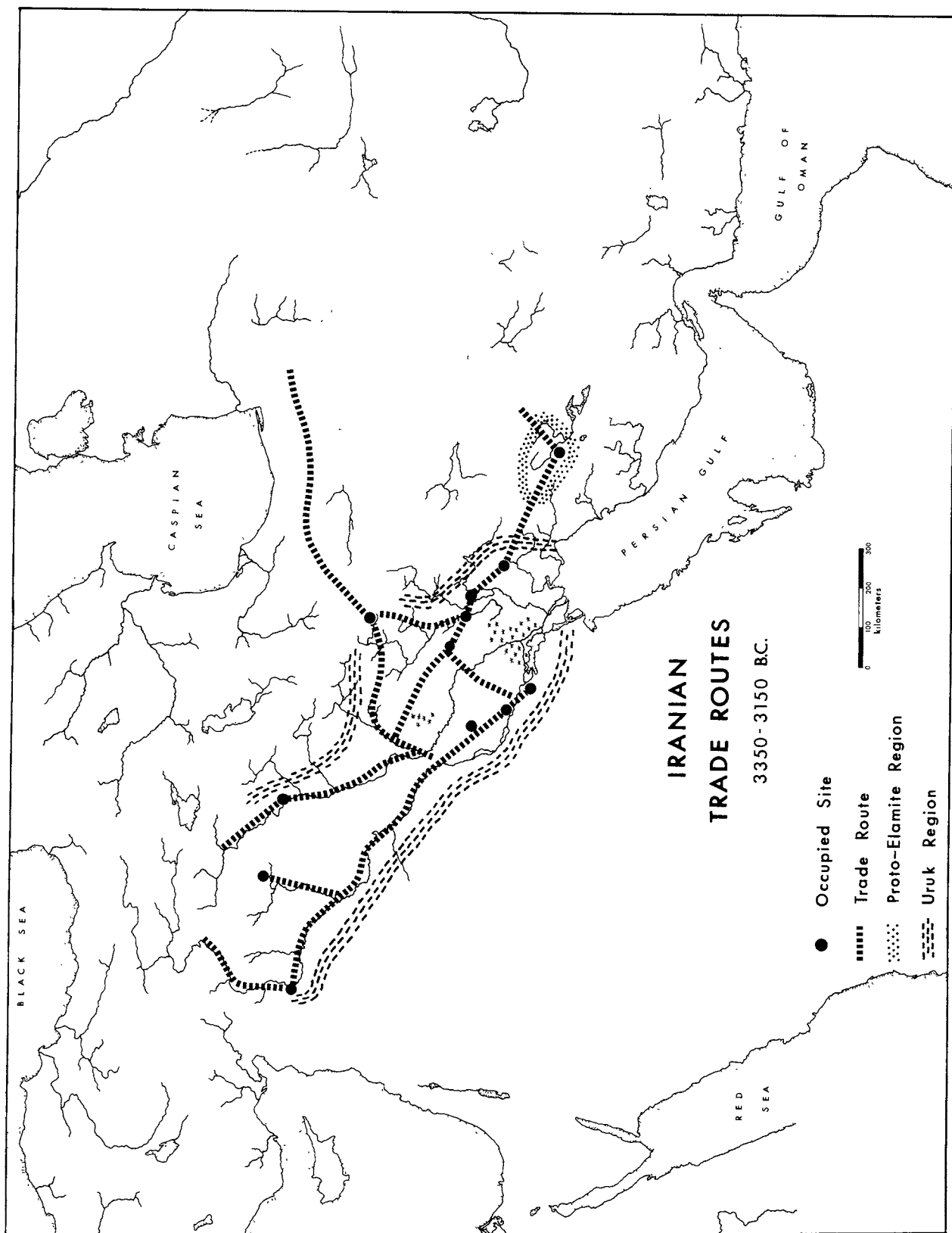


FIG. 4. Principal trade routes in Iran and Mesopotamia during the Late Uruk period.

(Dyson 1968:14-16). These so-called Yanik peoples blocked the Khorasan Road and Susian access to the highlands through Khorramabad and Godin, and the flow of trade across northern Iran was broken (Weiss and Young 1975:15). These events, occurring sometime around 3100 B.C., presented the people of the southern Iranian highlands with an opportunity to control all trade between Iran and Mesopotamia. It also presented the Mesopotamian-dominated Susian elites with a serious problem, for they had lost all access to the interior of Iran. To retain their position of control over the flow of material between Iran and Mesopotamia they had to reestablish control over Chogha Mish and the trade route it dominated. The abandonment of Chogha Mish at the end of the Late Uruk period suggests that sometime between Susa Acropole I:17 and I:16 the Susians forced the people of Chogha Mish out of their position in the network of interregional trade, out of the Susiana Plain, and into the distant but safer regions of the Zagros intermontane valleys. Specifically, it seems possible that the rapid growth of population in the Izeh Plain resulted from the immigration of peoples from Chogha Mish and its surrounding settlements into this isolated but protected area.

Even achieving control over the entire Susiana Plain would not have solved the geopolitical problems of the Susian elites. They were still caught between the increasingly powerful city-states of southern Mesopotamia and the growing Proto-Elamite polity in the highlands. Susa could, however, counter any threat from the Sumerian city-states by strengthening its ties with the population of the Kur River Basin, and the ceramics from the Susa Acropole I sounding indicate that such a change actually occurred. Susa Level 17 pottery is virtually indistinguishable from assemblages in southern Mesopotamia, while Level 16 ceramics are like (but not identical to) Late Middle Banesh pottery from the Kur River Basin.

The ultimate result of the growth of Proto-Elamite economic power was the decline of Susa and the Susiana region. During Susa 16 times, Susa may or may not have been politically allied with the polity centered around Malyan, but it was certainly no longer a major political, military, or economic force.

As Susa declined at the end of the 4th millennium B.C., the importance of Malyan grew. Similarities between Late Middle Banesh ceramics at Malyan and contemporaneous material from Yahya, Sialk, Ghazir, and Susa indicate that Malyan was probably as important to at least part of the population of these sites as the Late Uruk centers of lower Mesopotamia were to the colonies along the upper Euphrates. The scale of foreign intervention was not so grand in the later Proto-Elamite, but the distances over which it occurred were perhaps even greater. I would suggest that the Proto-Elamite development which was first apparent around 3300 B.C. in the Kur River Basin had by 3000 B.C. grown into a polity dominating the southern Iranian highlands and with military equivalence to Sumer. This change was effected through control over long-distance trade between highland Iran and the lowlands of Mesopotamia.

The period from about 3050 to 2900 B.C. marks the zenith of Proto-Elamite expansion. Malyan grew to the size of the small urban centers of contemporary Mesopotamia. Susa probably functioned as a port-of-trade, a weak but independent location where highland resources were exchanged for the products of Sumerian society. Ports-of-trade (Revere 1957:52; Chapman 1957:116; Arnold 1957:162) are sites between or on the edges of major political units where traders can meet and exchange while remaining outside the territory of a foreign power. They are generally neutral and protected solely through serving the interests of all parties to the trade; their own governments are typically weak and exercise only local authority. Without such places it would be difficult to establish and continue the relationships necessary for foreign trade, and consequently powerful

states often tolerate or even encourage such settlements on their borders.

This interpretation is supported by the location of Susa (cf. Hirth 1978:37), on the only overland route still open between Iran and Sumer, and by the endemic hostility between these two areas recorded in later historic times in 3d-millennium-B.C. textual sources (Potts 1978a). It is also consistent with a recent study of the political organization of Elam (Vallat 1980), which argues for the distinction of Susa and "Susiane" (a lowland region, basically the modern province of Khuzistan, that was often allied with Elam) from Anshan (the historical name for Malyan) and Elam. The frequency of Proto-Elamite tablets and their distribution over the entire known occupation at Susa indicate that a large proportion of the residents were keeping records in the highland script concerning some kind of exchange. Susa's function as a port-of-trade would have protected it from the Mesopotamian powers because with access to highland products to lose no Sumerian polity would have been inclined to threaten it. And the Sumerians posed no effective threat to Malyan, for that site was protected by distance and the rugged Zagros Mountains. For perhaps a hundred or a hundred and fifty years, the Proto-Elamites controlled overland trade from a seemingly invulnerable position in highland Fars (see figure 5).

Restricted access to highland products must have sorely vexed the lowlands states, for they were not guaranteed adequate supplies of materials that they wanted badly. The rarity of carnelian and absence of lapis lazuli at Jemdet Nasr (MacKay 1931:271-72) could well be a result of this restricted access, as could the general decrease in lapis lazuli across all of Mesopotamia noted by Herrmann (1968:37) during the Early Dynastic I period. Yet the Sumerians were not able to subjugate either the Proto-Elamite polity or the Yanik intruders who blocked the old northern routes. To add to their problems, by around 3100 B.C. they had lost control over the upper Euphrates (Mellaart 1978).

An answer, however, was soon discovered. Maritime trade and transportation, developed in the Persian Gulf as far as Bahrain since at least Ubaid times (Oates et al. 1977), was extended to the copper mines of Oman and beyond during the Jemdet Nasr period (During-Caspers 1971, Potts 1979). Soon, Sumerian traders were sailing as far east as the Indus Valley (During-Caspers 1979). The results of this expansion are obvious from figure 6. Mesopotamian merchants could now bypass the entire area under Proto-Elamite control and directly contact many old or new sources for highland products. There is good evidence that this indeed happened. In the Early Dynastic period Mesopotamia began to acquire copper from Oman (Berthoud 1979:117), while the bronze statuette (Tucci 1977:photo 30) and large Period III building (Biscione et al. 1977:109-10) at Shahr-i Sokhta may indicate contact with Mesopotamia in Early Dynastic IIIb. The implications for Proto-Elamite hegemony are also obvious. Without their monopoly on access to highland products they would lose power and status in their relationships with the lowland city-states. The cultural reintegration of Susa with Mesopotamia (Amiet 1979:197) and the growing insularity of Malyan indicated by the development of the distinctively local Late Banesh ceramic tradition imply that such changes occurred.

Since the Late Banesh is roughly equivalent to Early Dynastic II and III in Mesopotamia, the model presented here would indicate that the quantities of highland materials in the lowlands should increase dramatically during the later Early Dynastic, when Proto-Elamite hegemony no longer restricted Mesopotamian access to the resource areas of Iran and farther east. Although chronological problems remain (see Whelan 1978 and n. 3), there appears to have been such an increase. Herrmann (1968:38-40) has shown that the quantity of lapis lazuli in Mesopotamia increased during Early Dynastic II-III times. Johnson (1970:83) has identified a clear increase in

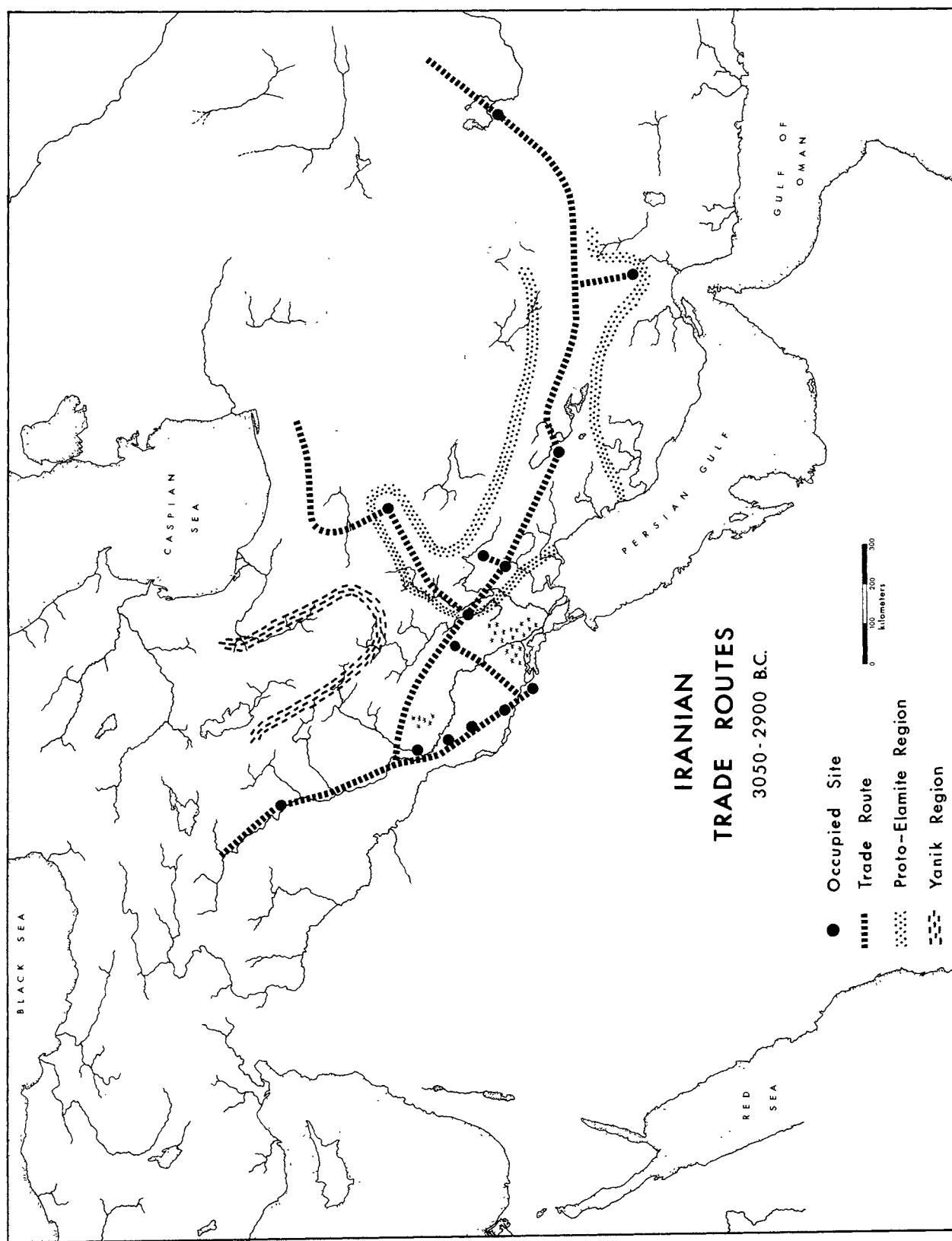


FIG. 5. Principal trade routes in Iran and Mesopotamia during the Proto-Elamite/Jemdet Nasr period.

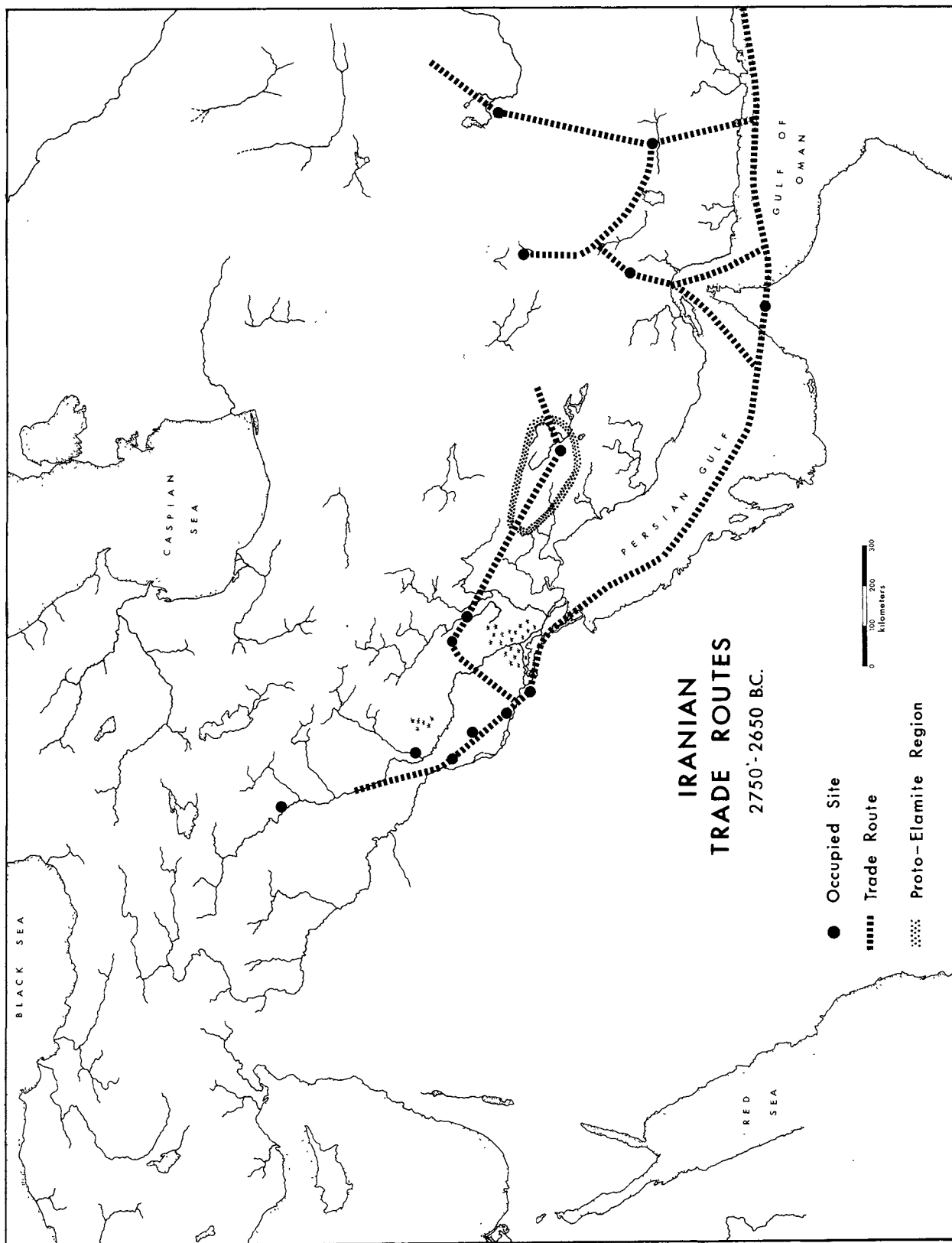


FIG. 6. Principal trade routes in Iran and Mesopotamia during the Early Dynastic I/Early Dynastic II transition period.

both the quantity and variety of imported materials in the private houses of the Diyala sites between Early Dynastic I and III. Nothing from earlier periods can compare with the wealth of lapis lazuli and precious metals from the Early Dynastic III Royal Cemetery at Ur (Woolley 1934), while in the "A" cemetery at Kish, of the same date, "lapis lazuli and carnelian . . . were exceedingly common" (MacKay 1929:134).

Data from Farukhabad (Wright 1981a) allow a further test of this reconstruction of prehistoric patterns of trade and political dominance. Farukhabad lies in the Deh Luran Plain, on the route between Susa and southern Mesopotamia but within the Mesopotamian sphere of influence. Thus, imported highland materials at this site should be expensive (rare) during the era of Proto-Elamite dominance and cheaper (more common) during both the preceding Uruk and the subsequent Early Dynastic. Rather than looking at simple frequencies or density, Wright (1972, 1981a) considers the ratio between local goods presumably produced for export and imported goods. This ratio can be interpreted as a measure of cost, with high prices represented by more local production per unit of imported material and low prices represented by the opposite pattern. Figure 7 (adapted from Wright 1981a:fig. 99) shows the data on local production and imports from Farukhabad.

During the Early and Middle Uruk the frequencies of exports and imports seem about equal. These periods can be taken to approximate baseline cost and demand for imported materials at Farukhabad. The Late Uruk and Early Jemdet Nasr are marked by a sharp increase in the rate of production for export (i.e., the ratio of waste to tools increases greatly for asphalt and somewhat less markedly for local flint), but there

is little change in the frequency of imports. The proportion of tools made from imported chert declines, carnelian appears, and shell density remains constant. Thus, the same quantity of imports seems to be costing more in terms of the amount of flint and asphalt that must be exchanged for them. During the Late Jemdet Nasr the proportion of asphalt waste to tools drops (i.e., there is a decrease in the proportion of local production that is exported), the frequency of asphalt rises (production remains at a high level), and the quantity of imported flint and marine shell rises sharply. That is, the return on productive effort has risen. For the people of Farukhabad, the cost of imports has declined.

During the Early Dynastic the cost of imports rises again: the waste-to-tool ratio for asphalt is again high even though the level of imports has not changed. However, this may reflect a move towards importing higher-priced goods rather than a general rise in import costs, for lapis lazuli from Afghanistan has doubled in frequency. It is also possible that the costs of sea trade are higher than the costs of overland trade were during the Early and Middle Uruk, that the seafaring traders were taking higher profits, or that Early Dynastic merchants had to pay higher taxes to their political or religious institutions. These data are meager and their interpretation is somewhat difficult; however, the reconstruction offered here of political and economic events in the late 4th and early 3d millennia B.C. is supported by the changes in local production and volume of imported goods observed at Farukhabad.

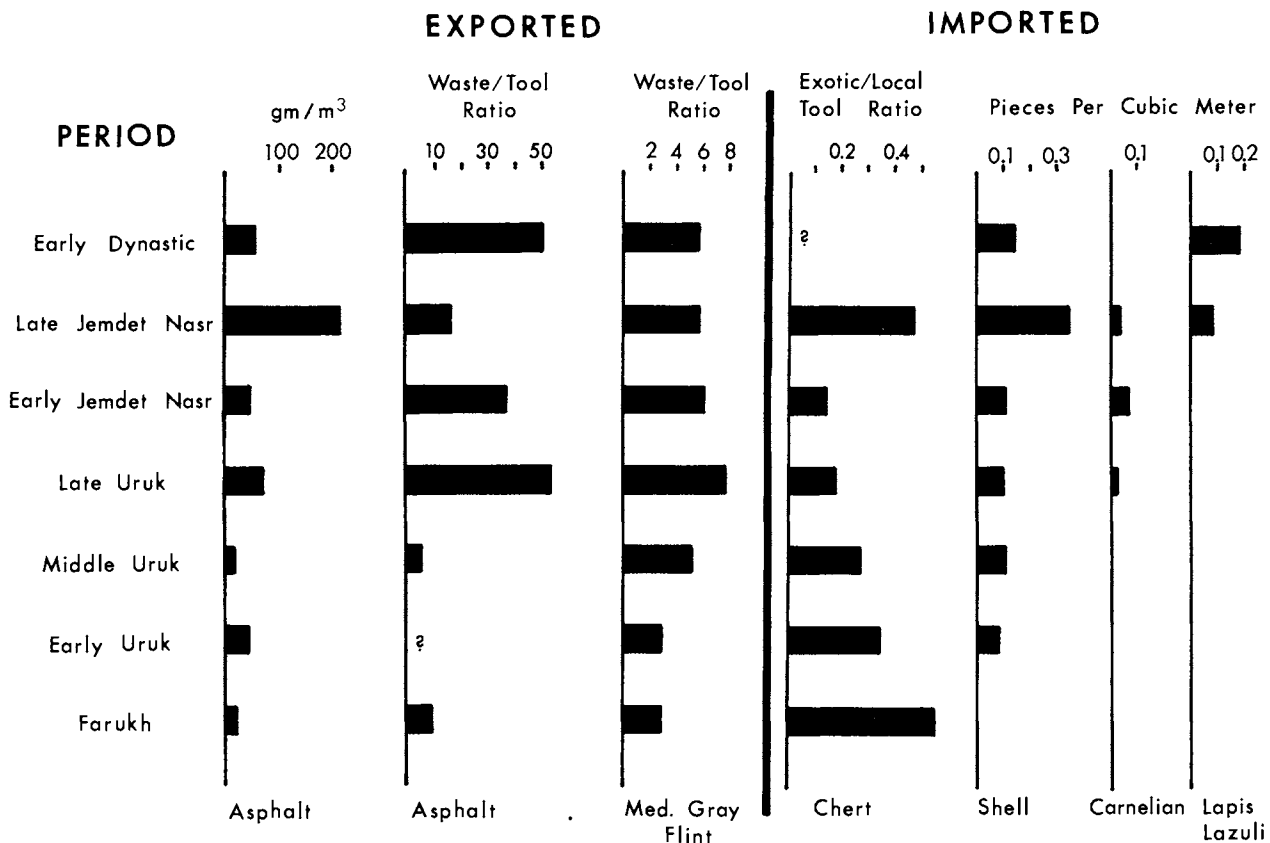


FIG. 7. Densities of imported and exported materials at Tepe Farukhabad, Iran, during the 4th and early 3d millennia B.C. These data indicate that the cost of imported material peaked during the Late Uruk and Early Jemdet Nasr periods, when the Proto-Elamite hegemony controlled access to the Iranian highlands. The data are taken from Wright (1981a).



## CONCLUSIONS

This paper has presented archeological information from the years between 3300 and 2600 B.C. for Iran and much of the Middle East. These data have been used to reconstruct the growth and decline of Proto-Elamite political and economic hegemony and to define the part that control of long-distance trade played in those developments. The model seems to account for the known data, and it supports several general principles that will probably surprise few readers:

1. In prehistoric complex societies, a single elite group controls both political and economic institutions and manipulates these institutions for its own benefit. Restriction of trade by the Proto-Elamite elites exemplifies such manipulation. A similar situation has been detected in the archeological record from the early 1st millennium B.C. in the northern Zagros (Levine 1977). Although not unexpected, such patterns are only beginning to be demonstrated archeologically.

2. Within the sphere of economic activity, controlling elites attempt to control the supply and minimize procurement costs for the items and materials that their societies require. The development of a sea trade route by Sumerians is evidence for such efforts. When Proto-Elamite control of overland trade increased the costs and threatened the supply of Sumerian imports, the riskier maritime route was utilized.

Continuing work on prehistoric and protohistoric societies in the Middle East will undoubtedly result in additions, amendments, and corrections to the model presented here, but the idea that interactions between prehistoric polities were influenced by explicitly economic considerations will endure, for even the earliest state-level societies were concerned with efficient acquisition of scarce resources. Contrary to at least one recent argument (Kohl 1978:463), it seems that trade should indeed be treated as one of a limited number of variables that must be evaluated in attempting to explain specific instances of cultural evolution. The rise and fall of Proto-Elamite fortunes in the Middle East could never be understood without a consideration of long-distance trade.

Two final warnings are perhaps appropriate. First, Le Breton (1957:123) has written: "The geographical position of Susa compelled us to express much of the foregoing discussion in terms of an antithesis between Mesopotamia and Iran: but Susa, and generally the Middle East, cannot be understood if the antithesis is overstressed." This paper has also emphasized the antithesis between Mesopotamia and Iran, using the idea of competition as a device for explicating the Proto-Elamite phenomenon. But conflicting economic interests do not tell the whole story; questions about the social, religious, and ethnic relationships between highlands and lowlands remain. The range and importance of these shared interests is clearly suggested by Sumerian epic literature, and these commonalities must be considered in complete models of societal evolution along with the political and economic patterns discussed here.

The second warning is even more general. Speaking of the early Neolithic, Braidwood (1974) has said, "I am haunted by the specter of how for years afterwards quite accidental priorities of discovery may influence culture-historical generalizations." In the situation discussed here, the priority of discovery of Proto-Elamite tablets at Susa led us to believe for decades that Susa was the center of the Proto-Elamite phenomenon. This no longer seems to be true. Concerning discoveries that may yet be made, it would not be surprising if Ninevite V pottery in northern Iraq and eastern Syria proved to represent a phenomenon similar to the Proto-Elamite development discussed here. Simply because evidence for the Proto-Elamite phenomenon was discovered first, we should not assume that it was unique or of primary significance in the history of the Middle East.

## Comments

by DENNIS HESKEL

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Alden provides a useful and detailed description of important cultural changes in Proto-Elamite Iran. The "microchronological" shifts in settlement pattern, population size, and control of long-distance trade discussed here and related to conditions in Mesopotamia are intriguing and represent an excellent synthesis of recent data. The use of economic competition with Mesopotamia as an explanatory driving force for the changes described is, however, less successful.

The premise here is that economic control of long-distance trade with Mesopotamia resulted in a shift of political power from Susa to Malyan. The ceramic and the site size evidence presented to support this contention assumes a migration to Mesopotamia (from Johnson 1973:156; 1975:337) and to the Kur River Basin. This migration is seen as the result of pressure, presumably military, from Mesopotamia at the end of the 4th millennium. There are three basic problems with this argument: (1) the apparently similar reduction in site size during the Jemdet Nasr period in southern Mesopotamia (Adams 1981) without evidence of a comparable migration; (2) the problematic correlation of material remains either with specific ethnic groups or with particular sociopolitical configurations; and (3) the assumption that the maximizing of economic control by an elite at Malyan provides the most useful understanding of the evidence without addressing the advantages of different forms of trade within a cultural context.

Alden claims that Susa functioned as a "gateway community" and makes the valid point that our preoccupation with Susa as the Proto-Elamite capital is a result of historical discovery. It is interesting, however, that if Susa is a "minor" site, it nevertheless contains evidence of Proto-Elamite economic materials and types and amounts of luxury items comparable to those of the major Proto-Elamite centers.

As for the assumption that particular material remains represent movement of distinct ethnic groups, examples of the use of the same materials by different ethnic groups in the past and present are too numerous to belabor. We can, however, use this problem of Alden's interpretation to investigate the third and most critical problem of this research.

How can we best discover the specific causes, contexts, mechanisms, and contents of the presence of highland materials in the lowlands? Alden argues that control of long-distance trade creates shifts in the degree of political organization and the settlement patterns of highland Iran. It is certainly proper to reevaluate the dominant position of Susa in the Proto-Elamite world but perhaps less useful to redefine the hegemony with Malyan as the controlling power. The Proto-Elamite sites mentioned by Alden contain similar administrative buildings, tablets, seals, certain ceramic forms, and metal objects. Yet, each site contains distinctive forms of these materials, particularly of metal. The corpus of metal objects, especially of status items, at Proto-Elamite sites provides almost no evidence of contact based on stylistic similarities, yet these objects were produced at each site by smiths who had a shared and sophisticated technological base. Do these general technological similarities indicate control of local populations by the economic elite of Malyan, or Susa, or Mesopotamia? If so, what is the economic advantage to the Proto-Elamites, "invulnerable in highland Fars," of restricting the lowlands to highland products? The cost of establishing the highland polity at Malyan should not be evidenced by a reduction in trade at the height of Proto-Elamite power.

There is a contradiction here that is not simply the result of the problems already mentioned, but is due primarily to a

lack of understanding of what these costs and benefits are to the individuals who make up the elite of Malyan or other Proto-Elamite centers and to the competing complex societies. We gain little understanding by viewing the emergence of Harappan civilization solely as a result of Mesopotamian-inspired maritime trade. Nor, for example, does the expected shift in Mesopotamia from the use of copper-arsenic alloy obtained from highland Iran to the use of copper-tin bronze, most likely controlled by the centers of the Indo-Iranian borderland regions during or after the Proto-Elamite period, occur as predicted by Alden's model.

Alden has produced a useful synthesis of changes in Proto-Elamite Iran, but he has failed to present a compelling interpretation because an adequate conceptual framework with which to investigate the changes identified is absent. It may be hoped that this article will emphasize the need to understand past behavior in terms of powerful concepts rather than concentrating on the creation of descriptions in which an explanatory mechanism is implied.

by RICHARD HODGES

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I have only a slight familiarity with the Proto-Elamite period, but I found Alden's paper a stimulating contribution to a complex field. I would like to comment, however, on a few general aspects, extending some of the views of Adams (1974, 1975) in appraising essays such as this one. The basis of this kind of analysis has to be a detailed approach to the stratigraphic nature of the archaeological sites in question. Adams tells us why (1975:457): "if trade is generally the dynamic, unstabilizing force that the ethnohistoric record seems to suggest, wide fluctuations over short intervals are to be expected in the geographic range of trade, in the extent of local participation in trading networks, and in the selection of trading partners. Yet the archaeological record is characteristically an aggregative one, difficult to connect with short or precise time intervals." If we assume that the chronology has been properly understood, then we must use production-distribution data to formulate hypotheses about the political economy. Smith (1976) has prepared a set of regional models appropriate to the prehistory of marketing systems. Use of these models would determine at an abstract level whether, at different time periods, there were manorial systems (bounded hierarchical networks) or solar central-place or dendritic central-place administered systems. In conjunction with an analysis of the settlement systems there must be an appraisal of the scale of production. Rathje's (1975) cost-control model in a refined form provides a valuable approach to this (see Rice 1981, Hodges and Cherry 1983). Finally, quantified consumption rates will inform us about the structure of the social system across this region.

These are abstract models, but they can be applied phase by phase to an area of this kind to reveal the evolution of political systems as well as the trade fostered in these systems (see Hodges 1982). For example, if Susa was a gateway community as Alden suggests, this has direct implications for the region in which it was located. Susa should be an island—a distinct cultural zone—within the entity that controlled it (see Smith 1976; Hodges 1982: chap. 7). Outside this subregion there should be a low level of production, and the distribution of imported goods should be dictated by the elite. I think that Smith's models may be an oversimplification (see Hodges n.d.) and that dendritic and solar central places may coexist. Yet we can make abstract deductions from such models that illuminate the archaeological context. If Susa is a gateway community, it is effectively functioning within a core-periphery model, and this raises many questions (see Hodges n.d.); further, the

territory in which it sits has a complex redistribution economy (see Earle 1977) that is in need of prestige goods. In short, we are concerned with a pre-state political system in which marketing occurs only at the vegetable level (*contra* Lamberg-Karlovsky 1975).

The structured analysis of good stratified data must ultimately lead us beyond the abstract and historically unsatisfactory analyses of the past (Johnson 1975, Lamberg-Karlovsky 1975, Wright and Johnson 1975). Rigorous operationalising of the data at a regional level is required if we are to achieve analyses that are historically meaningful or meaningful in any generalised processual sense. This paper is a step in that direction.

by GREGORY A. JOHNSON

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Alden's valuable synthesis of a very difficult data set raises a number of important problems. I shall focus my remarks on the earlier portion of his Proto-Elamite time range.

Alden presents a relatively simple picture of Late Uruk colonizations on the periphery of the Mesopotamian alluvium to control access to highland resources. Expansion is especially evident in the northern Euphrates sites of Samsat, Habuba Kabira and Jebel Aruda (van Driel and van Driel-Murray 1979), and Godin in the Kangavar Valley of the Zagros. Localized peripheral expansion was, however, only one of several processes operating at this time.

Population as measured by hectares of occupation increased by 121% in the Warka area of southern Iraq (Adams 1981:69). Simultaneously, there was a decline of 45% and 60% respectively in the nearby areas of Nippur (Adams 1981:69) and Ur/Eridu (Wright 1981b:325-27). Farther afield, population declined by 58% on the Susiana (Johnson 1973:67-69) and by 66% on the Deh Luran plain of southwestern Iran (Wright 1981a:181-85). Parenthetically, I find these proportions of decline to be remarkably similar ( $N = 4$ ,  $\bar{X} = 57.3\%$ , s.d. = 8.8%).

The Late Uruk occupation at Godin seems to have been very much an exception to a further general decline of Uruk or Uruk-related settlement in the Zagros. Uruk settlements were totally abandoned in the Izeh Valley (Wright 1979b:69), on the Ram Hormuz Plain, and probably in most of Luristan (Wright n.d.). I expect that a similar pattern can be documented for the northern fringe of Mesopotamia.

Taking the Warka area as the demographic core of the Uruk distribution, the Late Uruk saw considerable population increase in this core area, decline in a near periphery, and a mixed pattern of general decline and localized expansion in a far periphery. The Late Uruk collapse on the Susiana was apparently related more to interelite competition for control of rural labor and produce than to control of long-range trade (Johnson n.d.), and, contrary to Alden, there is no evidence of a Mesopotamian colonization of Susa in Acropole I:18-17 (Late Uruk) times. Causes of a similar decline in the Nippur area are as yet undetermined.

The temporal coordination of these substantial demographic changes over a very wide area suggests a high degree of interpolity dependency that is consistent with the remarkable similarity of Late Uruk ceramic assemblages, administrative artifacts, and features of building construction wherever they are found. The nature of this interaction is totally unclear, but it seems to have increased throughout most of the 4th millennium. Further complications include the observation that the

Nippur rather than the Warka area was the center of the Early Uruk population distribution (Adams 1981) and that the probable political organizations of the then peripheral Warka and Susiana areas were quite different from one another (Johnson 1981, n.d.b).

The post-Late Uruk, Proto-Elamite regionalization described by Alden may have been more the product of the very rapid collapse of the Uruk interregional system than that of largely independent political developments in such highland Iranian areas as the Kur River Basin. The sources of this collapse are probably to be sought in the internal political dynamic of a very closely articulated network of newly emergent states, rather than in the relation of those polities to suppliers of materials usable as elite status markers.

Whatever the sources of this regionalization, it is clear that interpolity relationships in highland Iran were very different from those pertaining within the earlier Uruk system. Ceramic assemblage similarities are far less marked. Interaction may have been relatively restricted to local administrative elites, as is suggested by the similarity and distribution of the Proto-Elamite "economic texts" themselves. Hierarchically organized transhumants may have added a new source of variability to an already complex political and economic situation (Wright n.d.).

Scale is probably one of the more important difficulties to be overcome in consideration of later 4th and early 3d millennium developments. Alden draws on data from an area of very roughly 1.5 million square kilometers. We are only beginning to recognize the potential importance of phenomena on a very large spatial scale and as yet have very little theory applicable to such problems.

by PHILIP L. KOHL

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Alden is to be congratulated for summarizing archaeological discoveries related to the Proto-Elamite phenomenon. The strength of his article rests in his attempt to write history over an extended period of time on a broad interregional scale. Changes in settlement data in one area are related to changes in another, and people (and materials) move around in relation to political and economic circumstances. All this rings true, and perhaps someday the general features of Alden's model of Proto-Elamite development and expansion will be substantiated.

Unfortunately, on present evidence his model is far from proven. The greatest weakness of the article is its construction of a towering edifice upon an exceptionally thin empirical foundation. Given the incomplete decipherment of the Proto-Elamite tablets (which, despite a few additional material indices such as shared ceramic types, remain the primary evidence justifying use of the term "Proto-Elamite"), it is possible that the phenomenon itself might collapse. Negative evidence is interpreted at will or made to fit the model; e.g., Shahr-i Sokhta's one "economic-type" tablet provides the basis for speculation on the existence of a thriving Proto-Elamite community. By Alden's own admission, Susa is "arbitrarily" assigned a very small occupational area during Proto-Elamite times, and we are told that the concept of a Proto-Elamite polity centered on Susa can be explained away as an accident of its prior discovery, while the real center lay at Malyan despite the presence of far fewer excavated tablets. Alden, of course, may be correct, and one should always be aware of the accidents of discovery, but his case is not yet documented and seems to violate the principle of basing one's reconstruction upon available evidence.

Evidence for some destruction between Sialk III and IV is ignored, while the Proto-Elamite occupations of major complexes on the central portions of the largest regional centers at

Godin, Yahya, and Sialk are seen not as evidence for political control, but as defensive locations for the residences of foreign merchants. Without going into detail, there are no data that I am aware of, at least from Yahya, consistent with this interpretation. Besides the obvious question of how such foreigners managed to occupy these prominent locations in the absence of some form of political manipulation, Alden's discussion seems to contradict itself when a few pages later we read that "the Proto-Elamite development . . . in the Kur River Basin had by 3000 B.C. grown into a polity dominating the southern Iranian highlands and with military equivalence to Sumer." Which is it? Does trade follow the Malyan flag or precede it?

I believe that all archaeological reconstruction involves the imaginative utilization of an imperfect data base; it is the looseness or tightness of the fit between the data and the model (presumably derived from the data) which ultimately must be evaluated. We are presented with a model of Proto-Elamite development based on the control of long-distance trade, as suggested—as I understand the argument—by the increases and decreases of imports into Mesopotamia during the late 4th and early 3d millennia. *Where are the traded raw materials or finished commodities from the Proto-Elamite sites themselves?* To speak facetiously, perhaps the Proto-Elamites simply obstructed, rather than engaged in, long-distance commerce, or, alternatively, perhaps all they traded—or mailed—was their tablets. Little else exists. The relation between data and explanation is too strained or loose to be credible.

by MANFRED KORFMANN

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In this work we have a clear overview of the problems of the Proto-Elamite period presented in accordance with the latest research. The author deals primarily with the nature of trade contacts with distant countries and with the political relationships between Mesopotamia and the highlands of Iran at the end of the 4th and beginning of the 3d millennium B.C.

Intriguing though it is, this work is not completely convincing. The methodological question hangs over it of to what degree finds—here particularly ceramics as surface finds—permit us to make historical statements. A problem much discussed in our field is whether it is generally admissible to identify material culture with distinct groups of people. The evidence of Proto-Elamite writing in clay, the meaning of which is totally closed to us, is part of material culture, but the problem of writing/language and ethnos remains. Alden touches upon this question only peripherally and indirectly when he establishes that the frequent specimens of Proto-Elamite writing from Susa are only examples of bookkeeping in Iranian highland script. *Potsherds* are the main source of evidence in this work. Other common cultural elements which make up the Proto-Elamite phenomenon are scarcely mentioned. No one treating such questions in a scholarly way would allow himself to draw final positive or negative conclusions on this basis. The optimism with which Alden evaluates the results of excavations and the arguable importance he gives to ceramic samples (some of which he has gathered himself) may well irritate some colleagues. Of course, he is only speaking of a model, but this fact is not emphasized enough.

In similar cases in the Near East (and elsewhere), when new language and ethnic groups and new social and economic systems penetrate a basically different environment, the archaeologist often does not find any clear evidence in the material culture. In this connection we could mention the example of the Hittites and other Indo-European groups in Asia Minor from the end of the 3d and the beginning of the 2d millennium, and here it cannot be said that the state of research, as far as the Hittites are concerned, is poor. Certainly foreign ethnic groups in a non-Indo-European environment, these new peo-

ples (or language groups) became known to us as far as material culture is concerned only after they had been living in Asia Minor for many centuries. The archaeological finds tell us nothing of their previous activities. In this same region and time period we find a similar situation with the Akkadians in the 3d millennium B.C. Again, in the Assyrian trading colonies of the beginning of the 2d millennium B.C. the very fact that ethnoses and pottery cannot be clearly distinguished from the Anatolian surroundings would suggest that there is reason for doubt about Alden's model.

Alden conjures up (mainly from surface finds, i.e., ceramics) a graphic historical picture of the relations between central Iran and Mesopotamia in which trade is the motive force behind processes of cultural development. Increases and decreases in population and invasions are examined; elites, settlement shifts, and increase and decrease in trade contacts with distant lands are postulated. Alden considers political alliances and concludes (amongst other things, from the provincialism of ceramics) that the area in question was economically isolated between 2750 and 2650 B.C. Finally, the inhabitants of the settlements and the region are presented as specialized herders, farmers, or traders.

The archaeologist working in the field knows only too well how much the survey interpretation of a mound may differ from the results one obtains from excavation. The latest extensive and instructive information in this regard comes from research done in the '60s and '70s in the Keban Basin area and that still in progress in the Karakaya and Karababa Basins in the Murat and Euphrates Valleys.

Alden speaks of an Uruk colonization at the state level, basing this interpretation not only on written evidence but especially on the Uruk pottery that is known to have been widespread, including the so-called diagnostic beveled-rim bowl. When he makes such statements, we expect them to be limited and defined. The question of limiting types such as the beveled-rim bowl to the Ubaid-Jemdet Nasr period is still under discussion and has not been resolved. This gives a frame of nearly 1,000 years. Alden connects the model of Uruk colonization with that of early Proto-Elamite colonization on circumstantial evidence.

In the event that ceramics were identical with ethnoses (and language) in this area at the end of the 4th and the beginning of the 3d millennium, and in the event that they did indicate political systems and trade-related developments, then it would indeed follow that the appearance of Trans-Caucasian or Yanik wares in western Iran as an intrusive element created some kind of block. According to Alden, the trade routes from Syria and northern Iran were then no longer usable. Was this in fact the case? I believe that the conclusions drawn from the distribution of ceramics are too far-fetched in this concrete instance. There is also here an uncritical approach to the problem of dating. This should be emphasized even though the absolute chronological framework is not as important in this model as at first appears. However, since the "Yanik people" are decisive for Alden's argument that the route connecting the Khorassan with the highlands was cut off, the absolute date is very important for this area, which cannot easily be connected with Mesopotamia and central Iran—and Alden would set it at approximately 3100 B.C. There are very few experts today who would be so sure of this point that they would build a model on it. Alden himself cites Mellaart's remarks on the chronology dilemma in the Near East (and Europe). It should be added that these remarks provoked a reaction from experts of both areas of the so-called absolute chronology (see *Antiquity* 54).

In this painstaking and methodologically thought-provoking study, the limitations of a type of archaeology that can still be designated as "prehistoric," despite the pro forma written sources, become very clear. We should remain aware of these limitations.

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02138, U.S.A. 28 v 82

Over the past decade and a half the Proto-Elamite culture on the Iranian Plateau has emerged as an entity requiring both definition and understanding. Alden's paper does not contribute to the definition of this cultural group, which is still awaiting formal description in terms of a specifically identifiable Proto-Elamite material culture. It does, however, provide an understanding of the Proto-Elamites' economic and political role. Before turning to Alden's rich hypothetical framework, several points not sufficiently emphasized in this paper require clarification.

First, the excavations of the past decade at Susa, which have a very direct bearing on the Proto-Elamites (Canal 1978, Le Brun 1978b), are all but ignored here. The middle half of the 4th millennium sees an increasing similarity between the lowland ceramics of Susiana and Mesopotamia and little relationship between them and the highland assemblages of sites on the Iranian Plateau. Thus, the ceramics of Susa Acropole 22 have strong ties with those of Warka E-anna XIII and those of later Susa Acropole 18 with those of Warka E-anna VII-VIII and Nippur Inanna XVII. Following this Mesopotamian lowland integration one sees the "colonization" of specific sites such as Habuba Khabira in northern Syria, Godin V on the plateau of Iran, and Susa. This "widespread communality of administrative practices" (Wright 1978:234) is fundamentally important; it is only after it that the Proto-Elamite culture emerges at Susa.

Following this early integration there is an abrupt change in the ceramic traditions of Susa. The ceramics of Proto-Elamite Susa 16-14b are like those of Tal-i Malyan (Banesh period), Yahya IVC, Tal-i Ghazir, and, to a lesser extent, Sialk and Shahr-i Sokhta (which nevertheless have some ceramic "index fossils" of Proto-Elamite type, plus identical seals and tablets [Amiet and Tosi 1978]). All of these sites contain Proto-Elamite tablets, seals, and sealings of similar styles and represent a new administrative communality covering an area different from but equally as large as that of the earlier Mesopotamian lowland tradition.

"Processually" what one sees is an early integration, ca. 3500 B.C., of lowland Mesopotamia which expands into Susiana as well as to distant Habuba Khabira, Brak, and Godin V. Following this, the social technology of writing, seals, and sealings and certain ceramic types, (e.g., bevelled-rim bowls) are adopted by the indigenous population of Susiana, the Proto-Elamites, who then proceed to colonize sites, e.g., Yahya, Sialk, Malyan, precisely as the "Sumerians" did earlier. The assimilation and acculturation of "Sumerians" and "Proto-Elamites" from the middle to the end of the 4th millennium is dealt with in detail in two forthcoming publications (Lamberg-Karlovsky n.d.a,b). What is important here is the structural similarity of the Mesopotamian lowland integration, followed by colonization of nearby (Susa) and distant (Habuba Khabira) sites, and the emergence of the Proto-Elamites, who, adopting and transforming to their own style the Mesopotamian social technology, went on to colonize nearby (Tal-i Malyan) and distant (Tepe Yahya) sites. Indeed, the effects of the Sumerian efforts at colonization are felt as far away as Arslantepe in Anatolia (Palmieri 1981), while the Proto-Elamite efforts are seen at distant Shahr-i Sokhta (Amiet and Tosi 1978). The farther one moves from the lowlands, the less direct the assimilation and adaptation to the new social technology.

Alden does not sufficiently consider this background, and for this reason and others his understanding of the Proto-Elamites differs fundamentally from mine. When he does discuss the Mesopotamian-related colonizations, it is in refer-

ence to powerful economic forces motivating the desire to colonize. Thus, Susa was colonized "to control the flow of highland resources by establishing colonies along the most important regional trade routes." Meanwhile, the Kur River Basin, in which Proto-Elamite Malyan is later located, was "only one of a number of relatively unimportant regions feeding materials into the Uruk trading network, not meriting the investment necessary for colonization." This is economic determinism run amok. Alden perceives the Proto-Elamites as "monopolizing" long-distance trade to Mesopotamia and as constituting a political hegemony wherein influence and control is wholly centralized in the Kur River Basin. That there is virtually *no* evidence for all this is only a slight overstatement.

Alden's assumption that the Proto-Elamite texts are concerned primarily with records of exchange is unwarranted. The Proto-Elamite texts detail a productive economy which is dealing with pitifully small numbers. Texts dealing with sheep/goats record only a few score animals; even the so-called cumulative tablets record herds of only 200-300 head (Meadow n.d.). Comparison of these with mid-3d-millennium cumulative tablets in Mesopotamia which record herds in the tens of thousands (Pettinato 1981:162-63) suggests profound differences in the administration of the economy. Proto-Elamite tablets on such sites as Susa and Yahya record very small numbers of animals (usually fewer than 100). Similarly, cereal production is recorded in limited amounts and does not suggest commodity production in excess of domestic consumption (Merriggi n.d.). The same situation is indicated at Susa (Merriggi 1971). The small numbers dealt with in the texts simply do not suggest the contention of a Proto-Elamite political hegemony, specialized production, or records of exchange. It is highly unlikely that the Kur River Basin, which Alden hypothesizes by 3000 B.C. to have been the center of this assumed political hegemony, with its 23 recorded sites, is concerned with a handful of sheep, goats, or cereals recorded in the texts at distant Yahya, Sialk, or Susa. Equally significant is the context from which the tablets are recovered. At Susa (recent excavations), Malyan, Sialk, and Yahya the tablets are recovered from buildings which indicate domestic functions, hearths, storage vessels, etc. Nicholas (1981) documents the presence of *domestic*, small-scale, craft production at Malyan in the same buildings from which Proto-Elamite tablets were recovered. Proto-Elamite tablets are simply not found in archival contexts as they are in the more elaborate buildings of the mid-3d millennium.

Alden views the seals and sealings of Proto-Elamite type found from Susa to Shahr-i Sokhta as further evidence of state-administered trade. The single study to have concentrated on the function of Proto-Elamite clay sealings (Feroli and Fiandra 1979:307-12) shows that seal impressions are mostly "wasters of door locking devices and, to a lesser extent, on vessels and other containers." In a far-ranging second study, Fiandra (1975) has shown that the majority of cylinder sealings were utilized for *internal* control, for securing doors and vessels, and not for administering long-distance trade.

Thus, neither the content, function, nor distribution of tablets or seals reinforces the view of a strong centralized political hegemony administering long-distance trade. Nor has the excavation of any Proto-Elamite site indicated the specialized large-scale production of a single commodity beyond the requirements of internal consumption or local exchange. Certainly, there is *no* evidence to suggest that the Kur River Basin "had by 3000 B.C. grown into a polity dominating the southern Iranian highlands with military equivalence to Sumer. . . . through control over long-distance trade between highland Iran and the lowlands of Mesopotamia." All of this with a total population of 5,000 (see table 2)? It appears *totally* implausible to me that production at Shahr-i Sokhta, Yahya, Malyan, Sialk, and Susa was administered by a central

"state" system. There is neither archaeological field evidence nor settlement data to suggest this. Alden moves populations from Susa to settle the Kur River Basin, while Johnson (1975: 337) dips into Susa to move the same population into Mesopotamia at the same time. In all of this the substantive picture derived from the archaeological record is lost sight of. Not a *single* excavated Proto-Elamite site suggests an indigenous emergence for the Proto-Elamite culture. *All* Proto-Elamite sites are discontinuous settlements in regions in which there is ample evidence for a decline in the number of settlements (Malyan [Sumner 1972], Yahya [Prickett 1979], Susa [summarized by Alden above]) immediately prior to their Proto-Elamite colonization. Susa, which alone experienced the earlier Sumerian-related colonization, adopted the social technology and initiated its spread over the Iranian Plateau. I wholly agree with Alden that the migration of the Proto-Elamites to distant sites such as Sialk and Yahya was undertaken by small groups. I also agree with him that the Proto-Elamite colonies had little lasting influence on these sites. The question is why. There is again a structural similarity between the failure to survive of the Sumerian-related colonies at Habuba Khaira and Godin and that of the Proto-Elamite colonies at Sialk, Malyan, and Yahya. Perhaps the answer is that it was only in the "core" areas of southern Mesopotamia (Sumer) and Susiana (Proto-Elamite) that these cultures survived. The "peripheral" areas that were colonized were *all* abandoned after two or three centuries. Under conditions of colonization one might reasonably assume conflict; in addition, the regions colonized *all* lacked the dense settlement distribution necessary to sustain the new social technology, directed toward the administration and control of emerging administered economies. (For an extended discussion, see Lamberg-Karlovsky n.d.a,b.) It is in the "core" areas that one sees the greatest articulation of cultural complexity *prior* to the Late Uruk/Jemdet Nasr colonizations, and it is in these same regions that one sees the continuous evolution of Sumerian and Elamite culture. This cannot be mere coincidence. In the "peripheral" areas Proto-Elamite settlements could neither sustain their authority nor, in the absence of sufficient population density, effectively exploit the advantages of the new social technology over indigenous populations. Between "cores" and "peripheries" there may be a mix of relationships in which similar forms represent quite different social structures.

I mean by this that the Late Uruk Sumerian form of *state* organization is imposed on Susa and through the subsequent process of assimilation and acculturation the indigenous Proto-Elamite culture adopts the *forms* of social technology (writing, seals, etc.) but not necessarily the *structure* of the state. Thus the material culture of Proto-Elamite Susa, Malyan, Yahya, etc., may be similar in form to that of Sumerian Mesopotamia, but the structure of their society need not necessarily have been a state. Certainly Shahr-i Sokhta, Sialk, Yahya, and Malyan do not emerge as city-states comparable to those of Early Dynastic Mesopotamia. Only the region of Susiana and, *much* later, in the 2d millennium, the site of Malyan in all of Iran can claim an emergence of Bronze Age states. I argue elsewhere for the Proto-Elamite adoption of a material culture representing an emerging state system in Mesopotamia but utilized within a "domestic mode of production" at the level of the chiefdom at Yahya, Sialk, Malyan, etc. Only in Susiana, significantly, directly adjacent to the emerging city-states of Sumer, does an early complementary (Elamite) state emerge. In this region the social technology of writing and seals is virtually continuous; in the "periphery," where chiefdoms essentially persist throughout the Bronze Age, it is abandoned.

It is, furthermore, inconceivable to me that the "monopoly" the Proto-Elamites allegedly held over long-distance trade with Mesopotamia (itself not a monolithic political entity) was institutionalized in the Proto-Elamite colonies by "outsiders who

did not exercise political control." Alden argues that Proto-Elamite colonies were (a) monopolizing trade, (b) exploiting resources, (c) managing production, and (d) controlling trade routes, in the absence of any political control or coercion. This view, graced by the term "model," is supported by no textual or archaeological evidence at all, a plethora of hypotheses the recitation of which seems to be an end in itself, and settlement-pattern analyses indicating real demographic shifts but little else—not even the rise of a "state."

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Alden's article offers a stimulating synthesis of Proto-Elamite civilization; it opens new horizons and stimulates debate which might lead to a better understanding of the Near East around 3000 B.C. However, Alden relies heavily on survey data, to the detriment of the stratigraphic evidence yielded by the excavations; Susa, in particular, has been studied extensively during the last decade and offers the most complete stratigraphic sequence. Because of its specific premises, Alden's approach is debatable.

For instance, Alden considers as Proto-Elamite both sites or levels which contain only numerical artifacts (bullae and tablets) and sites or levels which contain *Proto-Elamite inscriptions* (in the strict sense of the term). However, excavations carried out at Susa (Acropole I) show that the history of Susa in the second half of the 4th millennium clearly consists of two periods: Period II (Levels 22 to 17) yields the first cylinder-seals (Level 20) and account tablets (Level 19). The artifacts of this period bear a close resemblance to those of Mesopotamia. Period III (Level 16 and up) yields Proto-Elamite tablets; the archaeological record of this period differs radically from that of Period II while bearing striking similarities to the artifacts found at Malyan (Late Middle Banesh). Although the differences between the two periods may have been inadvertently sharpened by the choice of the excavation site, the fact remains that during Period II Susa belongs to the Mesopotamian world while during Period III it belongs to Proto-Elamite civilization.

A logical consequence is that the inscriptions on the two tablets from Susa (Amiet 1972: nos. 474, 604) are Sumerian rather than Proto-Elamite. They are similar to those of Level 17 at Acropole I, as is also a tablet from Godin V (Weiss and Young 1975: fig. 4:2). This new interpretation of the first inscriptions is congruent with archaeological data and with logical reconstruction (like Susa 17, Godin shows clear similarities with Late Uruk).

Period II has yielded only Mesopotamian artifacts, while Period III is characterized by Proto-Elamite material. The sharp distinction between the two periods makes it doubtful that Susa was a port-of-trade, for in such a center both trading partners leave material evidence of their exchange.

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Alden's paper is flawed both terminologically and methodologically, with the result that its conclusions are neither convincing nor compelling. The terminological problem is apparent from the start. Alden chooses to treat the numerical tablets together with the true "Proto-Elamite" ones and then goes on to say that his use of "Proto-Elamite" will refer to a "cultural phenomenon rather than a chronological one." But the cultural phenomenon, or rather the cultural assemblage, represented by Susa Acropole I:17-19 and Godin V is virtually identical with that from the Late Uruk in southern Mesopotamia and with Habuba Kabira and Jebel Aruda in Syria. Why

the former should be called "Proto-Elamite" and the latter something else is never made clear but seems to have its roots in one of the cautions with which Alden ends the article. Susa is virtually the only site at which both "numerical" and "Proto-Elamite" tablets were found. Given the lack of control in the early excavations, both were thought to be part of a single phenomenon. This impression, although now clearly shown to be mistaken, persists in the terminology adapted by Alden, to no good use.

What, then, is the picture? During the Late Uruk period we have a set of sites that spread from Susa and Ur in the south to the upper Euphrates in the north. These are marked by a large number of shared traits, which include architecture, ceramics, glyptic, and numerical tablets. Beyond this area, we have other sites, such as Godin V, Sialk IV:1, and probably the sites in the Jazireh and Assyria, which show varying degrees of penetration by the Late Uruk complex. Malyan, Yahya, Shahr-i Sokhta, and the other southern Iranian sites do not seem to participate in this phenomenon.

At the end of the Late Uruk period, this pattern shifts. In southern Mesopotamia, the Jemdat Nasr period follows, with its shared corpus of traits, the most striking of which is the appearance of tablets which can now be recognized as Sumerian. The upper Euphrates is no longer part of this "culture area," and the links with the Iranian sites are also broken. In southern Iran, a new cultural complex arises, with its central area stretching from Malyan to Susa (Acropole I:16-14). It is this central area, with its shared ceramic and glyptic inventory and with its "Proto-Elamite" tablets, that should properly be defined as "Proto-Elam." Connected to "Proto-Elam" are a series of sites, such as Yahya, Shahr-i Sokhta, Bushire, and probably Sialk IV:2, which show varying degrees of penetration, much like some of the Late Uruk sites described above. Susa, whatever its size at this time, seems the hinge on which this shift from the Late Uruk pattern to the Jemdat Nasr/Proto-Elamite pattern swings.

Alden argues that the states of lowland Mesopotamia had an ongoing need for raw material procurable only in the east. This is generally accepted. He argues that the shift from the route through the central Zagros to the south was occasioned by disruption of the former route. This was suggested by Weiss and Young, as Alden notes. What remains, then, is the explication of the mechanisms for the rise of the Proto-Elamite phenomenon and for the collapse of the Late Uruk one. Here, however, Alden does not suggest a clear answer. He suggests that the "Mesopotamian-dominated Susian elite" forced out the people of Chogha Mish, thus gaining control over the trade route dominated by the latter. But this trade route, the southern one, was nonfunctional when Chogha Mish was a serious rival to Susa. He suggests, further, that this elite was now caught between Sumer and highland "Proto-Elam." But why highland "Proto-Elam" was emerging as a state and why the Susa elite adopted the material cultural assemblage of the highlands are questions never cogently answered. "Ports-of-trade" is a buzz word, not an argument.

Finally, Alden never really addresses the subject suggested by the title of the paper—"Trade and Politics." He speaks of trade, and he speaks of cultural assemblages, deriving unsubstantiated behavioural patterns from the latter. But even allowing these claims to stand, the paper has not advanced our idea of how trade and politics interact. Indeed, the whole series of problems connected with the effect of the changing trade patterns on the emerging states in Mesopotamia or on the social fabric of Iran is left unexplored. Alden claims that his "reconstruction implies that political decisions made by the ruling elites were... determined by economic motives." Instead, we seem to have a series of circumstances, with no elites, no decisions, and no determinism.



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The traditional view of the Proto-Elamite period has never been totally accepted by anthropologically oriented prehistorians. The tendency persists to divide the 4th and 3d millennia into comparative chronological horizons without much understanding of the archaeological cultures which dominated the region. Alden's assessment of the problem—that Proto-Elamite is more of a cultural phenomenon than a chronological one and therefore subject to a wide range of influences that can be interpreted in terms of economic and political control mechanisms—is well taken. For convenience, he does provide a basic comparison of contemporary societies, especially those which were either influential in the formation of Proto-Elamite society or directly affected by its economic and political practices. His concern is not chronological, however, but what constitutes Proto-Elamite culture, the reasons for Proto-Elamite expansion, the impact of local elites on emerging institutions, and the control mechanisms which affected various aspects of the Proto-Elamite world.

Alden argues that Proto-Elamite culture is a reflection of the changing political and economic relationship between the highlands of Iran and the alluvial plains of Mesopotamia. He assumes that political decisions by local ruling elites were determined by economic motives, an assumption supported by evidence of the movement of goods and ideas across large areas of the Near East at the close of the 4th millennium B.C. This well-tested hypothesis provides the basis for an argument which is quite traditional in nature. Alden does, however, emphasize that the control-of-trade postulate does not explain everything. Single-component arguments (Lamberg-Karlovsky 1977) can only be speculative in nature, since there are various levels of interaction in interregional and intraregional exchange systems (Redman 1978).

In the discussion of sites and regions Alden provides a valuable synthesis of the available data on the extent of the Proto-Elamite world. What has been gained from these regional surveys is an understanding of the increase in prosperity and eventual decline in the Proto-Elamite regions as a reflection of emerging city-based economies in the lowlands of the Tigris and the Euphrates. Individual sites such as Yahya and Malyan developed into large-scale trade centers on the basis of inter- and intraregional economic activity. Such centers certainly attracted large immigrant populations, which increased the physical complexity of the sites as well as their social and political organization. Pressures of this nature would further the development of elites exercising increasing control. However, as economic foci shifted to more favored locales decline would follow. Alden states,

it appears that direct, sustained contacts did not result in any widespread adoption of foreign-style materials in either the occupied sites or their immediate hinterlands. This in turn suggests that the groups were ethnically and probably linguistically distinct, that the outsiders did not exercise political control, and that the local populations did not admit to any inherent superiority of the foreign culture. . . . In all likelihood, the foreign settlement was tolerated because it was in the economic and social interest of the local group.

This interaction would eventually have led to the hybridization of local styles and a more heterogeneous population.

The control mechanisms that govern human communities are usually dominated by elites that tend to place their stamp on the surrounding culture. The general increase in population in Mesopotamia and Khuzistan during the 4th millennium B.C. may reflect increased social and political organization. Increased demand for items of technological and ideological significance perhaps had an important impact on state-level polities, intensifying intraregional exchange and stimulating local elites to attempt to control sources of raw materials directly. This

may have been evident as early as the Late Uruk period and was probably a major factor in the development of Sumerian maritime trade in the Persian Gulf and beyond at the beginning of the 3d millennium B.C. Alden's assessment of the impact this had on Proto-Elamite hegemony in the highlands is supported by the reintegration of Susa into the mainstream of Mesopotamian culture.

The conclusions generated by Alden are not surprising. Certainly trade is an important variable in the formation of early states and an integral part of much broader evolutionary processes. It must, however, be placed in its proper perspective as one of many variables necessary for the creation of broad-based polities.

by JAMES MELLAART

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I find this an interesting and stimulating article which would greatly gain in usefulness if a synopsis of at least the main ceramic types of the sequence were provided. References to unpublished dissertations are a poor substitute for a few pages of diagnostic pottery drawings. Without the essential data, how can colleagues otherwise judge?

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Numerous archaeological expeditions have multiplied our knowledge of the pre- and protohistoric periods of southwestern and central Iran over the last 15 years. Often, however, the new evidence has raised new problems without solving old ones. Therefore, any attempt to link the disparate pieces of evidence is to be hailed. Such attempts should not be judged by the extent to which each statement is supported by facts. Indeed, often we should be happy to be presented with concepts which are not contradicted by known material. Yet it is necessary to evaluate any material used very critically, for omitting evidence is better than forcing it.

Any attempt which tries to adduce as much material as this article does can count on being welcomed. After some reading, however, one starts feeling uneasy about the inconsistencies in terminology and the overinterpretation of the archaeological material in an effort to prove everything.

At the beginning the author defines "Proto-Elamite" as comprising Late Uruk, Jemdat Nasr, and Early Dynastic I. Later on, however, he sometimes uses Proto-Elamite as opposed to Uruk or as a synonym for Jemdat Nasr, thus excluding Early Dynastic I. In some cases it takes a while to understand what time-span the author means by "Proto-Elamite"; in others it is impossible.

Again, what are we to do when in n. 3 the author uses an older suggestion that Sialk IV 2—the level which yielded some Proto-Elamite tablets—lasted into the Early Dynastic II as an argument for the extension of the Proto-Elamite into the Early Dynastic but does not mention this point in his description of Sialk and in figure 2 restricts the date of Sialk IV 2 to Jemdat Nasr? Thus his one argument for the extension fails, and the only remaining one—the find of a stray Proto-Elamite tablet in a level later than Jemdat Nasr—does not help.

As one of his main arguments—that the flourishing period of Proto-Elamite lasted longer in the highlands than in the lowlands—is based on a closely knit grid of chronological reference, these chronological shortcomings are already enough to jeopardize the article. There are, however, other problems. The use of the terms "numerical" vs. "economic" in connection with the tablets is misleading, as of course the tablets with numbers only also belong to the economic sphere; the terms used belong

to two different levels. Furthermore, the Kur River Basin is not located "between the innermost ridges" of the Zagros, but to the east of them. This openness to the east rather than to the west is crucial for the understanding of the situation of Tepe Malyan.

The thesis that the highland Proto-Elamites' power was based on a key position in trade is based on the contention that highland raw materials became less frequent in the lowlands at the time when the highland Proto-Elamites flourished. The term "highland materials," however, needs to be defined in this case, as only a few of the foreign raw materials used in the lowlands came from a direction which could be controlled by highland Proto-Elam. What about the uninterrupted flow of a large variety of stones from Uruk, which analysis shows came from the central Zagros (Schüller 1963), or the sequence of Babylonian finds in Luristan graves, pointing to a normal, everyday exchange between the highlands and the lowlands? (I was greatly amused by the inclusion of "marine shell" in an argument centering on highland resources.)

The author's contention that Susa became a marginal place in terms of both location and importance after Late Uruk is based on the assumption that Susa grew smaller. For Late Uruk he does not give a size, but for Jemdat Nasr he is sure of a size of 11 ha. How does he know it became smaller, and, considering the thick overburden, penetrated in but a few places, how can he be sure of the Jemdat Nasr extent? He might have said "at least 11 ha." The problem of the size of Susa in various periods cannot be solved at present, let alone used for such an intricate argument.

Finally, a heretical question: what does the author estimate was the yearly consumption of lapis lazuli in Babylonia? two or three donkey-loads, or even ten? Could it be that we pursue a phantom if we attribute such importance to trade? Could it not be that this is just a reflection of our inability to define parameters other than overtly "exotic" materials?

I fully subscribe to the notion that the roles of Susa and Malyan have to be redefined—that too much emphasis is still being put on the evidence from the lowlands and that we must look at the highlands in their own right. In my opinion, the present study has not helped to solve any of these problems.

by JIM G. SHAFFER

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Alden has presented an interesting discussion of factors affecting Proto-Elamite period trade and politics. In particular I found his use of settlement pattern data in reconstructing the socio-economic contexts of long-distance trade interesting and provocative. However, I strongly disagree with his contention that Mesopotamian elites resolved resource supply problems by establishing *direct* sea trade with areas as far east as the Indus Valley. Current archaeological data from these areas do not support this conclusion.

Chronologically, Alden's period of direct contact was 2750–2650 B.C. Therefore, according to present Indus Valley chronologies (e.g., Dales 1973), such contact would have involved "Early Indus cultures" (Amri, Kot Diji, Balakot, and Sothi) and the "Indus civilization" or Mature Harappan culture. In neither context is there any convincing evidence for *direct* Mesopotamian contact by sea or land. Although Early Indus cultures maintained limited interaction with groups in Baluchistan and southern Afghanistan, there is no evidence for contact with areas farther west (except a single Amri sherd at Tepe Yahya), and there are no Mesopotamian, or Mesopotamian-like, artifacts associated with these Indus Valley groups.

The idea of mercantile flotillas linking Mesopotamian and Harappan worlds has persisted since Gadd's (1932) article on Harappan seals in Mesopotamia, despite critical reviews to the contrary (Chakrabarti 1977, Lamberg-Karlovsky 1972b, Shaffer

1982). Although much attention has been given to stylistically similar artifacts (i.e., metal objects, ceramics, figurines, dice) in the two areas, the results are inconclusive, since factors such as independent development, functional attributes, alternative origins, or interactions with third parties cannot be adequately controlled. Among the Harappan seals reported from Mesopotamia, only four seals and one sealing are indisputably Harappan, while the remainder have Persian Gulf affiliations. Furthermore, the only example from a known context was found at Nippur (Gibson 1977) in a Kassite house (ca. 1400 B.C.) which dates much too late to reflect direct contact. Both etched and long-barrel cylinder carnelian beads of possible Harappan origin have been found in limited quantities at Mesopotamian sites. However, Reade (1979) has warned against assuming that Harappans had a "monopoly" on the production of such beads, and alternative sources may have existed between the Gulf of Oman and Turkmenistan.

In the Indus Valley there are no objects of indisputable Mesopotamian origin. Of the nine "cylinder seals" identified in this area only two can definitely be said to have functioned as such. One had Harappan or Persian Gulf motifs, while the other was stylistically similar to seals from Central Asia reported by the Soviets. A single inlaid floral pendant may be Mesopotamian in origin, since use of an inlay technique is otherwise unknown in Indus Valley lapidary work. However, this pendant has a Late Harappan context (post-2000 B.C.) and, like the Nippur seal, cannot reflect direct contact. There is nothing in the provenience of these Mesopotamian or Indus Valley artifacts to suggest how, why, or precisely when they arrived at their destinations. Certainly, as Lamberg-Karlovsky (1972b) noted, there is nothing in the available data suggesting that direct contact was made or maintained between these two areas during this period.

There is, however, increasing evidence for Mesopotamian–Persian Gulf interaction during this period (Potts 1978b). Persian Gulf seals and, more rarely, pottery are known from Harappan sites (Shaffer 1982). Besides the few possible Harappan artifacts already identified in the Persian Gulf (Shaffer 1982), a few Harappan potsherds have recently been reported from Oman (Serge Cleuziou, personal communication) and Muscat (Maurizio Tosi, personal communication). The accumulating data indicate that Persian Gulf groups were actively engaged in commerce with Mesopotamia and, to a lesser extent, the Indus Valley. Furthermore, Lamberg-Karlovsky (1982) has suggested that Persian Gulf groups may have combined commerce with a degree of religious pilgrimage. Thus, it might be argued that if Mesopotamian elites had to seek alternative commodity sources via sea trade it was with Persian Gulf groups rather than *directly* with Plateau or Indus Valley groups. Alternatively, Alden's data may reflect the capturing of Mesopotamian markets by Persian Gulf groups that was facilitated by this combination of economic and religious activities, rather than the denial of access to highland resources by Proto-Elamite developments.

In summary, Alden has presented a provocative interpretation of Proto-Elamite data in southwestern Iran. However, in relating his data to 3d-millennium-B.C. intercultural trade he has failed to appreciate the complexities regarding the structure and extent of such trade outside his immediate region.

by TREVOR WATKINS

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I am not competent to comment on Alden's treatment of the primary data, for I am not experienced at first hand with the material from the Iranian sites discussed. I am, however, intuitively reluctant as an archaeologist to accept Alden's easy



equation of pottery with people, in particular the appearance of certain ceramics at certain sites with the proposed immigration of ethnic groups. Using the same evidential criteria Alden would find that the business areas of Tokyo were substantially occupied by U.S. immigrant merchant colonists, identified by their neat Western suits and the universal communications machinery with English-script keyboards. Certainly to pass from the raw physical data to the people and their behaviour as reflected in the data is one of the most difficult of transformations, and it is never easy to distinguish between exchange, diffusion, and migration.

At times Alden acknowledges that his interpretations of the data may not be the only ones, as for example when talking of Yahya he says "it is also possible that these distribution patterns resulted from class or functional variation" even though he has just claimed that the data support the hypothesis of the presence of a group of "outsiders." But he does not support his own view with reasoned argument, nor does he explain why the alternative views are untenable.

Alden identifies the immigrants as merchants, but I find it difficult, for example, to imagine how a small group of foreign merchants could at once install themselves in a new and distinctive building complex at the very top and centre of the already established city. I also wonder why these merchant groups bothered to bring with them for their own use pottery from their homeland amounting in quantity to a substantial percentage of the total ceramics of the city in which they chose to settle. Or did they bring their potters? And if so, who else? The Old Assyrian merchant colony at Kültepe-Kanes of the early 2d millennium B.C. presents a quite different picture, the *karum* of merchants living at a peripheral location and being indistinguishable from the native population in terms of material culture and accommodation, identified only by its archives of business documents and correspondence.

With his identification of immigrant merchants, however, Alden further confuses me, for later in his paper, in the interpretation and conclusions, these supposed merchants become on the one hand refugees who have left Susiana under economic and political pressure from Sumer and on the other hand a geopolitical power elite. There is nothing against the notion of refugee-merchants, but refugees are not usually in a position to take up at once the central position in an already existing community to which they may have migrated. I find the geopolitical level of abstraction the hardest to follow, however: the "small groups" of "potentially vulnerable outsiders" (as these minorities of migrant merchants are earlier defined) at the end of Alden's essay have become "a polity dominating the south Iranian highlands and with military equivalence to Sumer." There is surely some self-contradiction here, and no support that I could find in the evidence presented for such a conclusion. I remain to be convinced that either reconstruction can be reasonably inferred from the largely ceramic evidence cited.

## Reply

by JOHN ALDEN

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My paper examines a broad and complex set of data that is probably new to many readers. Most of the relevant primary sources are cited, and these can be examined to clarify questions of content or archeological context. In the area of interpretation, however, the task is more difficult. I stand by my approach and conclusions but recognize that others will disagree with some of what I have said. In evaluating the paper, the comments, and my response, each reader will have to look carefully and come to his or her own conclusions.

The Proto-Elamite phenomenon, defined by a distinctive ceramic tradition and (in later years) an ideographic writing system, becomes visible in highland Iran about 3300 B.C. Originally limited to part of the modern province of Fars, the geographical range of this corpus of objects, styles, and technology expanded greatly over the next few centuries. By 3000 B.C. Proto-Elamite-style materials are found across most of southern Iran. By 2800 B.C. or so, however, such materials are limited to a much smaller area, at Susa and in part of Fars. Chronologically, then, the phenomenon spans the later Uruk, Jemdet Nasr, and Early Dynastic I periods of Mesopotamian pre- and protohistory. Sites occupied during those years are relevant to the Proto-Elamite phenomenon, but I neither said nor intended to imply that all such Iranian sites were culturally Proto-Elamite. Thus, while relevant to Proto-Elamite developments, Susa Acropole I:22-17 and Godin V are not Proto-Elamite in terms of their material culture. An examination of figure 4 will show that, along with Le Brun and Vallat and Levine, I exclude them from the Proto-Elamite sphere. Levine is correct in taking me to task for the second through fourth paragraphs of the "Interpretations" section, where Godin V, Sialk IV, and Yahya IVC are discussed together under the label "Proto-Elamite." I can only plead that the comparison referred to the functions of the three sites, and I intended the referent of "Proto-Elamite" to be chronological rather than cultural. I apologize for this inadvertent confusion.

Johnson's and Shaffer's comments exemplify the value of the CA format, in which other specialists can clarify aspects of a situation a paper neglects. Both comments are clearly written and provide valuable references, and I find both convincing. In particular, I agree with Johnson's intuition that interpolity relations within the Proto-Elamite hegemony were probably very different from those within the earlier Uruk. Shaffer marshals a powerful argument for indirect rather than direct trade between 3d-millennium Mesopotamia and the Indus Valley while at the same time pointing out the ramifications of my poorly chosen adjective.

Levine and Marchese reiterate much of what the paper says, with modest changes indicating their own views of the general situation. Kohl, Korfmann, Nissen, and Watkins criticize the paper for overinterpretation, while Marchese says it takes a traditional view. Hodges wants more application of explicit models and Levine more about "the effects of changing trade patterns on the emerging states in Mesopotamia or on the social fabric of Iran." Lamberg-Karlovsky wants a completely different interpretation, and Mellaart wants pictures of pottery. I tried to push the available data just a bit beyond where I was comfortable, and I am not surprised that this is too far for some but not far enough for others. However, the tenor of some comments (Kohl, Nissen) concerns me.

One issue raised frequently is my reevaluation of the role of Susa. Heskell, Kohl, and Nissen seem to believe my size estimate is unrealistically low, but they offer nothing that would lead me to revise it. Site size can admittedly be a thorny issue, but someone has to face these basic problems. If the excavators refuse to do so, others must try. The suggestion that Susa may have functioned as a port-of-trade also engendered considerable comment. Contrary to Levine, "port-of-trade" is neither a buzz word nor an argument, but a descriptive term with a long history in economic anthropology. It is certainly more meaningful to say that Susa may have been a port-of-trade than to claim, as Levine does, that Susa "seems the hinge on which this shift . . . swings." Heskell and Le Brun and Vallat raise real questions, with real observations, about what has (or has not) been found at Susa. Neither finds of high-status objects nor the absence of accounts or records written in Early Sumerian strike me as definitive, but both should be considered in evaluating the port-of-trade suggestion.

My supposed equation of pottery with people bothers Heskell, Korfmann, and Watkins. What I actually said, in the second

paragraph, was that the similarity in material culture "lends some credence to the possibility that language, religion, and ethnic affiliation were shared along with the Proto-Elamite notational system." It should be clear that my argument for political hegemony neither requires nor implies ethnic homogeneity. As for Watkins's comments on Americans in Tokyo, I would hope that his hypothetical archeologist would notice that those "neat Western suits" fit persons who on average were distinctly smaller than the residents of New York. Further thought might suggest that his foreign elements appeared by way of conquest and economic domination over the last generation or so.

Heskel's statements on metal and metalworking are interesting but leave me wishing for more. I don't know what metal status items he refers to or what evidence indicates that metal objects were produced at each site, and I am not aware of any systematic study on the shift from arsenic to tin bronzes in Mesopotamia. References would have helped. In response to his question about the advantages of restricting trade, I would raise the issue of oil prices in the last decade, when a minimal shortfall in supplies generated a remarkable rise in price. If lowland demand for the products of highland Iran was relatively inelastic, then a small restriction on their supply could have created a sharp rise in their price.

Most of Kohl's comments are distortions of what I said. For example, I never proposed the existence of "a thriving Proto-Elamite community" at Shahr-i Sokhta. The phrases "political control" and "political manipulation" in his third paragraph have very different meanings, and while there may not have been traded raw materials or finished commodities at Yahya they are found in abundance in Building Level 2 in the ABC excavations at Malyan. It is unfortunate that Kohl does not put forth his own ideas about the Proto-Elamite era instead of making straw men out of some of mine.

Korfmann, I believe, attaches too much importance to absolute chronology when the relative chronological framework is reasonably secure. Godin V and Susa 17 are approximately contemporaneous and earlier than Sialk IV (contrary to Levine's surprising suggestion that Sialk IV:1 is Late Uruk), Yahya IVC, and Late Middle Banesh, while according to Weiss and Young the Yanik intrusion closely follows the abandonment of Godin V.

Levine seems to be of two minds about the article. He criticizes me for "deriving unsubstantiated behavioural patterns" from cultural assemblages, but two sentences later he deplores my failure to explore the effects of changing trade patterns on the societies of Mesopotamia and Iran. I suspect that he sees nothing in these data but a series of circumstances because he is looking for some kind of determinism. I have no interest in determinism, which may explain why I was able to see a highland group seizing the opportunity presented by changing geopolitical circumstances.

For Mellaart's information, most American dissertations (those from Chicago and Harvard are exceptions) are available from Xerox University Microfilms in Ann Arbor, Michigan, in reduced-size hard copy or microfilm, for less than \$20. Whether they are to be considered "published" or not seems immaterial when they may be had at moderate cost by any individual or library wishing to buy them.

Nissen's comments display a disinclination to think in processual terms and a remarkable antipathy towards interpretation of any sort. Indeed, he seems to reject the entire article because he disagrees with a single footnote (n. 3), although he manages to ignore the complexities inherent in his own set of chronological categories that are touched on in n. 4. Since I never suggested, hinted, or implied that "the flourishing period of Proto-Elamite lasted longer in the highlands than in the lowlands," I am astonished that he considers this one of my main arguments. The distinction between "numerical" and "economic" texts is standard terminology, and Nissen is incorrect in

locating the Kur River Basin to the east of the Zagros Mountains.

Given Nissen's complaints about my purported chronological inaccuracies, his own are doubly annoying. For example, he cites Schüller's study without specifying what levels or period the stones are from, and he claims that "Babylonian" finds in Luristan graves provide evidence for exchange between highlands and lowlands at the beginning of the 3d millennium B.C. The marine shell that so amuses him is included in figure 7 because in studying imports and exports at a site one must consider all imported materials and not just those from particular regions. Nissen is doubtless aware of Johnson's (1973) estimates of the size of Uruk-period Susa, and I consider my own estimate to be clearly discussed and adequately qualified. The supposedly heretical question about loads of lapis lazuli is actually rather old and tired. Nissen presumably realizes that all metal and stone found in the Mesopotamian alluvium is imported. The rare items, such as lapis lazuli, with known sources represent a small fraction of the imported items that are preserved archeologically, and what is preserved is only a small fraction of what was traded. The last straw is his suggestion that I have not looked at the highlands in their own right.

Watkins raises questions about the nature of the colonies at Sialk and Yahya and asks how these small groups of potentially vulnerable outsiders became a polity dominating the southern highlands of Iran. To answer the second question first, it happened over a span of several hundred years, primarily in the Kur River Basin. I think part of his concern stems from a failure to distinguish what happened in the small, peripheral sites from what happened in the central region. His first question is also raised by Korfmann in comparing the Proto-Elamite and Old Assyrian colonies. The differences they allude to probably result from three factors. First, the two phenomena represent entirely distinct cultural traditions. Second, the scale of the Old Assyrian trade is enormous, probably several times greater than that of the Proto-Elamite hegemony. Finally, the Assyrian merchants were settled in the capital of a powerful foreign king. The Proto-Elamites were moving into villages only a few hectares in size and involved in no political organization beyond the local level. It would be surprising if the phenomena were similar; it is not surprising that they differ.

Lamberg-Karlovsky begins by covering some of the same ground as Johnson, although the two disagree on virtually all details. Then, suddenly, because I suggest that the Uruk-period colonizations represent a pattern of rational, conscious decision making, I am said to be engaging in "economic determinism run amok." We are told that it is incorrect to assume the Proto-Elamite tablets are concerned with exchange because most of the numbers on them are small. I am chided for suggesting that an area with "23 recorded sites" could be the center of anything. Finally, I am said to claim evidence for Proto-Elamite "state-administered" trade and to suggest that "production at Shahr-i Sokhta, Yahya, Malyan, Sialk, and Susa was administered by a central 'state' system" (which I do not), and my estimated population figures are wrenched out of context. I believe that all these remarks misrepresent the content of my article. Finally, it is not true that all the Proto-Elamite tablets from Malyan come from buildings with domestic functions. The ABC Building Level 2 structure is not domestic in any normally accepted sense of the word, yet a number of tablets were found incorporated into its floor. Also, as I recall, most of the tablets from the TUV area came from the walls of the second building level, while most evidence of small-scale craft production comes from outside the main structure in Building Level 3. None of these Malyan tablets, in short, are from primary contexts in buildings with domestic functions. I think many of our disagreements are due to differences between the past and the present that Lamberg-Karlovsky does not

fully recognize. In particular, populations were much smaller then. It is shocking to discover that as recently as 1860 there were only 16 cities in the United States with populations over 50,000. A city of 45 ha. like Malyan, whatever the population figure we assign it, was extremely large for 5,000 years ago. At that time, an army of 500 men would have been enormous. The situation in Mesopotamia some six or seven centuries later was considerably different, and it is not surprising that we should find "profound differences in the administration of the economy" between these two eras.

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